NEW EQUIPMENT DIGEST

A Penton Publication

March, 1961

Volume 26 — Number 3

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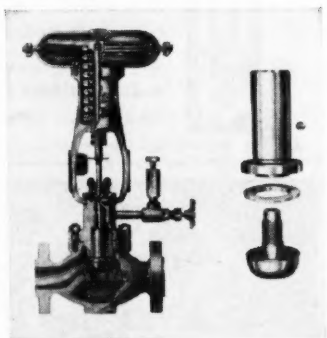
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 16 and 88

EQUIPMENT MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

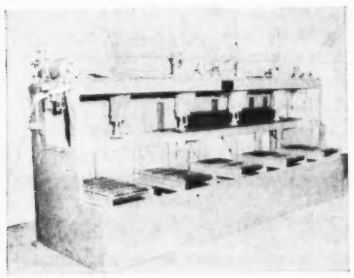
CONTROL VALVES
soft seat assures tight shutoff



Soft seat plugs in Masoneilan 20000 Series control valves assure tight shutoff under static pressures and pressure drops up to 500 psi. Plugs are designed for metal-to-metal backup of the soft seat inserts which, in closed position, are fully retained and withstand differential pressures in excess of 1000 psi. Inserts of Buna-N, Teflon, and glass-filled Teflon withstand operating temperatures of 200, 300, and 500° F. They assure high mechanical strength and corrosion resistance, even in steam service. Soft seats are offered on 1 to 10-in. valves and can be obtained for converting Series 20000 valves now in service. • **Worthington Corp.,** Mason-Neilan Div., 25 Nahatan St., Norwood, Mass.

▲ For more details circle **NED-1 C1** on enclosed inquiry slip ▲

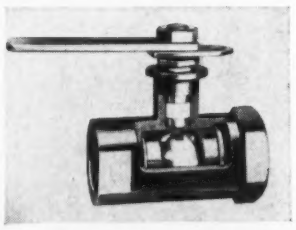
METAL SHEET FEEDER
turns sheet to vertical position



Metal sheets are lifted from a stack and fed vertically into punch press or other operations by this horizontal-to-vertical vacuum feeder. Vacuum cups lift a sheet and automatic raising arms turn it to vertical position against powered, magnetic feeder rolls which hold the sheet in this position while feeding. Powered by a ¾-hp motor the unit has a variable speed drive and a ⅓-hp vacuum system. Model shown feeds 14-ft long by 20-in. wide sheets. Units for any size sheet, 8-gage or lighter, are available. • **Union Tool Corp.,** 800 N. Detroit St., Warsaw, Ind.

▲ For more details circle **NED-2 C1** on enclosed inquiry slip ▲

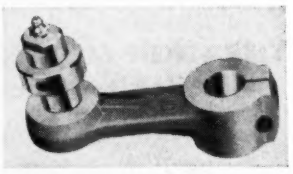
BALL VALVE
with various metals, seats, seals



Practically any fluid can be handled by this line of ball valves through selection of the proper combination of metal constructions, seats, and seals that are offered. Units feature an adjustable stem seal, a self-adjusting ball which seals with flow in either direction, and a stem shoulder to prevent the ball from being forced downward. The line includes cast Navy G bronze and semi-steel bodies, and brass, steel, and Type 303 or 316 stainless steel bar stock bodies. Both types have full-round pipe-size passage for fluids or restricted passage, as desired. Now made with flexible self-forming Teflon seats and seals, they will soon be available in other materials such as rubber, polyethylene, or Kel-F. Sizes range from ¼ to 2½ in. for pressures up to 400 psi water-oil-gas at temperatures to 450° F. • **Homestead Valve Mfg. Co.,** Coraopolis, Pa.

▲ For more details circle **NED-3 C1** on enclosed inquiry slip ▲

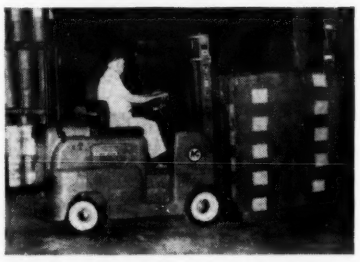
UNIVERSAL DRIVE TENSIONER
takes up slack in chain drives



Used to take up slack in chain and belt drives, this universal drive tensioner is easily locked into position at any point on the shaft. Tensioner arm can be rotated and locked in any position in 360 degrees. Unit is supplied with a 2-in. long interchangeable shaft, although 3 or 4-in. shafts are available for multiple width drives. Bronzed bushed sprocket and pulley idlers are available in 14 sizes. Price is $12. • **Brewer Machine & Gear Co.,** 1411 N. Second St., St. Louis 6, Mo.

▲ For more details circle **NED-4 C1** on enclosed inquiry slip ▲

LIFT TRUCKS
in 3000, 4000, 5000-lb capacities

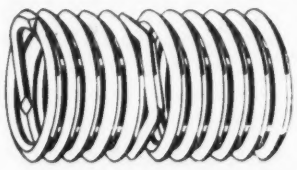


F-30, F-40, and F-50 lift trucks with respective capacities of 3000, 4000, and 5000 lb are designed for heavy duty service, economy, maintenance accessibility, and operator comfort and safety. Units are powered by new Power-Crater gasoline or LP-gas engines which develop up to 52 hp. Diesel power is also available for each of the new models. • **Allis-Chalmers Mfg. Co.,** Engine-Material Handling Div., 918 S. 70th St., Milwaukee 1, Wis.

▲ For more details circle **NED-5 C1** on enclosed inquiry slip ▲

SELF-LOCKING INSERT
eliminates seizure and galling

Precision formed to a diamond shape and coiled to provide the thread, the Screw-Lock insert of Inconel X wire gets its locking effect from a "grip coil" midway in its length. As a bolt is screwed into the insert, it forces the polygonal midsection into a circular shape to create the locking action. Uniform locking effect is retained with repeated assembly and disassembly. Insert is designed for applications up to 1200° F using a silver plated 0.003-in. undersize bolt. UNF sizes from 10-32 to ½-in.-20 are available. • **Heli-Coil Corp.,** Shelter Rock Lane, Danbury, Conn.



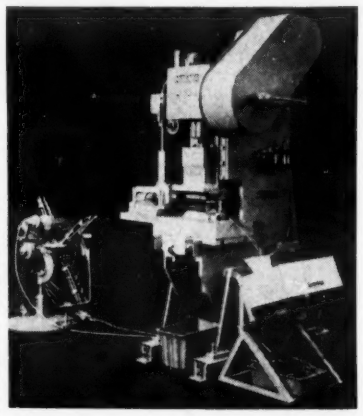
▲ For more details circle **NED-6 C1** on enclosed inquiry slip ▲

MOLD PARTING AGENT
spray type contains silicone

A 33 per cent pure silicone fluid is contained in Super 33 Silicone Concentrate mold parting agent. Recommended where a heavy pure silicone film is desired, the colorless, odorless, nontoxic agent is packaged in a 12-oz aerosol container with a fast-acting metal valve. Concentrate sells for $3.60 per sample can, or $36 per dozen cans. • **Injection Molders Supply Co.,** 17601 S. Miles Rd., Cleveland 28, Ohio.

▲ For more details circle **NED-7 C1** on enclosed inquiry slip ▲

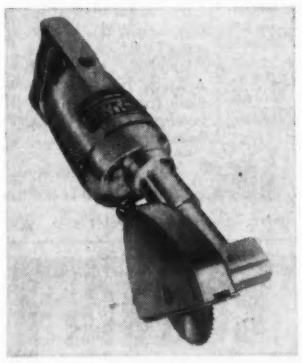
OBI STAMPING PRESSES
ultra-high speed 22-60 ton units



Capacities of 22, 35, 45, and 60 tons are available in Series M automatic ultra-high speed OBI presses which are capable of producing over 1 million short-stroke stampings per day. The 35-ton machine shown operates at 1000 strokes per minute. Presses have extra-sturdy steel frames, low inertia slide and connection, and nonmetallic ways. They are available in both nongeared and single-geared types. Shaft diameters range from 2½ to 4 in. Other features include fully enclosed drives and unusually long and rigid guiding. Models for high speed operation are also available in the same tonnages. • **Niagara Machine & Tool Works,** 683 Northland Ave., Buffalo 11, N. Y.

▲ For more details circle **NED-8 C1** on enclosed inquiry slip ▲

POWER HAND SAW
for panel and sheet cutting



Spring-loaded blade safety guard of the Model KS4-AM power hand saw automatically protects the blade when the saw is not in use. The 3⅜-in. high speed tool steel blade, offered in 60 and 80-tooth design, is adjustable to cut to a 1-in. depth. Tool will cut plywood, plastics, hard tempered Masonite, honeycomb materials, and other soft, rigid sheet materials. It makes regular or plunge cuts easily, and cuts straight or contour lines. Ball bearing equipped saw weighs 9½ lb and is powered by a 110-v ac-dc motor. Price with blades and 10-ft cord is $124.50. • **Kett Tool Co.,** 5055 Madison Rd., Cincinnati 27, Ohio.

▲ For more details circle **NED-9 C1** on enclosed inquiry slip ▲

GLUE GUNS
operate at any sealing speed

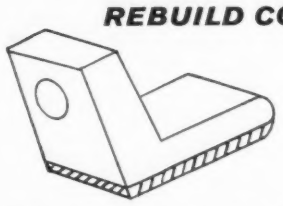
Roller widths from ¼ to 6 in. are available in this line of self-contained, machine-mount, FF glue guns for high speed coating of flat surface areas. They will lay an accurate ribbon or multiple bead pattern at any sealing speed. Measuring 2 in. from front to back, they incorporate a ball-spring plunger valve control which is actuated by a solenoid valve, electric eye, or other mechanical means. Type C gun bodies are available with an internal valve action measuring 1½ x 1½ x 1½ in. and can be fitted with FF gun tips to perform roller, groove, and angle gluing. • **John P. Fox Co.,** 1107 S. Mountain Ave., Monrovia, Calif.

▲ For more details circle **NED-10 C1** on enclosed inquiry slip ▲

ELIMINATE—

- *Contact Inspection and Dressing*
- *Hard-to-find Contact Failure*

REBUILD COPPER CONTACTS



with a silver-bearing facing

Silver facing also can restore to use contacts no longer available.

Rebuilt copper contacts with silver bearing facing benefit users in many ways. Down time due to contact failure is virtually unheard of. One silver faced contact gives the service of several new copper ones. Maintenance expense is reduced. Dependable service is assured. Wherever pitting, metal transfer, or failures occur with heavy electrical current, silver facing on contacts should be investigated.

SUPERIOR CARBON PRODUCTS, INC.
9115 George Avenue—Cleveland 5, Ohio

SCP SUPERIOR CARBON BRUSHES "Since 1919"

Send a worn contact for quotation.

Also ask for folder E.

For more details circle NED-11 C1 on enclosed inquiry slip

NEW IMPROVED DESIGN
SNAPO AUTOMATIC DELUXE RIVET GUN

ONLY $22.95 COMPLETE KIT WITH RIVETS

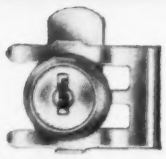
- **Pocket Size**
- **All-Steel Construction**

For "blind"—and for many non-blind applications—here is the answer to low-cost, quick assembly. "SNAPO Automatic Deluxe" is jam-proof because of automatic ejection of the mandrel nail after the unique rivet is set. Eliminates many welding jobs, replaces sheet metal screws, bolts and nuts, gets into confined areas. Rivets absolutely will not vibrate loose, heads countersunk for easy finishing. *Write today!*

The Finest "Blind" Rivet Gun Made
We invite you to compare, and you'll agree that this is the most durable, highest quality, easiest-to-use "Blind" rivet gun made. Save time and money on fastening, repair jobs.

RICHLINE CO., INC. 1531 E. Franklin Ave. Minneapolis 4, Minn.

For more details circle NED-12 C1 on enclosed inquiry slip

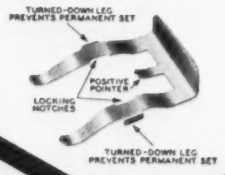


Clip in place on Corbin C15258 disc tumbler cam lock. Also available for other cylinder cam and desk locks.

CORBIN CYLINDER CAM LOCKS WITH *Exclusive* CORBIN CLIP

save time!...cut costs!...never loosen!

Like no other fastening device! Tempered spring steel. Patented design holds Clip securely in place—notches on clip engage notches on cylinder. Specially-designed legs of clip absolutely prevent a permanent set. No time-consuming, fumbling assembly operations. Just snap on 14, 16, 18, 20 and 22 gauge metal, also for other gauge metal on special order. Write for complete details.



CORBIN CABINET LOCK DIVISION
THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

For more details circle NED-13 C1 on enclosed inquiry slip

First with the Most

There has been a continuing and phenomenal upturn in the number of readers requesting additional information on products advertised and described in NEW EQUIPMENT DIGEST in the last few months. We have also noted a flood of new products being launched by both new and established companies to ease the burdens in industry, to speed production, to facilitate maintenance, and to cut costs.

We, as editors of America's leading Industrial New Product Magazine, are proud to participate in this two-way communication between maker and user. We will continue to present the news and pictures of "What's New for Industry" in time-saving digest form with all possible speed.

A. N. Gregg
EDITOR

VIBRATION MONITORS
models for machine and pipeline use

Used with a magnetic pickup, these vibration monitors show peak-to-peak vibration amplitude on their front panel meters. Exceeding a preset potentiometer setting energizes contacts for alarm and shut-down functions. Alternating current Model V/p-2 with 0 to 0.1, 0 to 1, and 0 to 10-mil vibration ranges measures amplitudes below 10 microinches and detects changes of 1 or 2 microinches. Applications include protection of compressors, generators, motors, pumps, automatic handling equipment and production machinery, and monitoring of high precision machining operations. Model V/p-T for pipeline service operates on 48 or 60 v dc, with the alternating current line used only to actuate a calibration circuit. It has a 0 to 5-mil range, double-pole 5-amp contacts, and plug-in construction. • **Indikon Co.**, 76 Coolidge Hill Rd., Watertown 72, Mass.

For more details circle NED-14 C1 on enclosed inquiry slip

Magnetic Screw Holders

Magna Driver Corp.—20-page looseleaf catalog describes Magna-Tip magnetic screw holding accessories for power screwdrivers and nut setters. They fit all standard slotted head and Phillips, Freason, clutch, and Allen recessed screws.

For more details circle NED-15 C1 on enclosed inquiry slip

UNUSUAL BARGAINS

ORDER BY STOCK NO. • CHECK—M.O. • SATISFACTION OR MONEY BACK

NEW! PORTABLE FLUORESCENT LIGHT—PLUGS INTO CAR CIGARETTE LIGHTER!

Ideal for industrial fleets, trucks, cars. Provides bright light without danger of fire or explosion from kerosene, etc. Excellent for roadside parking, emergencies, maintenance and repair work in or out of plant. Can be used continuously for 15 hours without having to drive car or truck—uses less power than parking lights. Just plug into cigarette lighter on dash. (Will not work on household current). 18" long aluminum lamp comes complete with light fixture, power pack, 15 watt fluoro tube, 35-foot cord.

Stock No. 70,356-AE (6 volt) ..... $14.95 Pstpd.
Stock No. 70,357-AE (12 volt) ..... $14.95 Pstpd.

Check, Measure, Inspect with this 6 POWER POCKET COMPARATOR

Complete with leather case. Measures Angles, Radii, Circles, Linear—in both decimal inches and millimeters. Used to check layouts, machining on tools, dies, gauges; to check threads, chamfers, wear on cutting tools, etc. Handy! Fast!
Stock No. 30,061-AE ..... New Low Price $19.50 Pstpd.

STEREO MICROSCOPE—Terrific Buy! American Made! Up to 3" Working Distance—Wide 3 Dimensional Field. Used in production, in research, or at home. 2 sets of objectives on rotating turret. Standard pair of wide field 10 × Kellner, Eyepieces give you 23 power and 40 power clear, sharp, erect image. Helical rack and pinion focusing. Interpupillary distance adjustable. SO GOOD WE'LL SHIP ON 10-DAY FREE TRIAL.

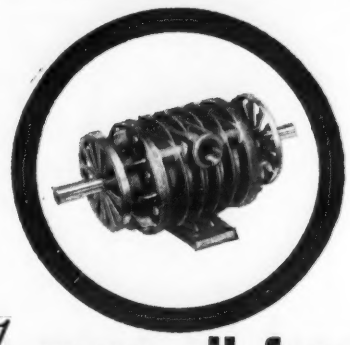
Stock No. 85,056-AE ..... full price $99.50 f.o.b.

FREE! GIANT 144-Page CATALOG "AE"

OVER 1,000 SCIENCE-MATH-OPTICAL ITEMS for industry . . . Many on-the-job helps . . . quality control aids! 144 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs experimenters, hobbyists, math learning aids. Write for FREE Catalog AE.

EDMUND SCIENTIFIC CO., Barrington, N. J.

For more details circle NED-16 C1 on enclosed inquiry slip



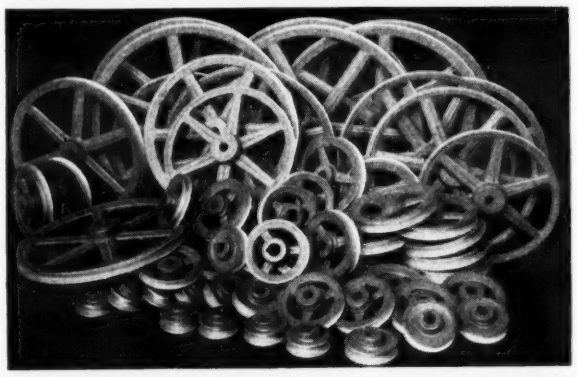
20% more oil-free air

The all-new M-D DRY AIR pumps deliver 20% more air flow than previous models. Seven models deliver guaranteed oil-free dry air in constant flow from 1 to 40 CFM and provide vacuums to 25" HG or pressures up to 35 PSIG.

Aircraft quality tolerances
Factory tested • No oiling • No greasing
7 Gas-Tight Models Also Available

Write for free literature
M-D BLOWERS, Inc., RACINE, WIS.
A subsidiary of Miehle-Goss-Dexter, Inc.

For more details circle NED-17 C1 on enclosed inquiry slip



BROWNING FHP SHEAVES

the most extensive line on the market!

Only Browning offers you all three kinds of sheaves: **Die Cast** for light duty, low initial cost. **Pressed Steel** for sturdy, rugged service at medium price. And **Cast Iron** for heavy duty, highest quality, greatest value; with fixed bore or Browning's famous interchangeable split taper bushing. Choose the sheave most efficient and economical for your every job from Browning's complete range of stock sizes. Catalog GC-101 contains details. For your copy ask your Browning Distributor or write **Browning Manufacturing Company, Maysville, Kentucky.**

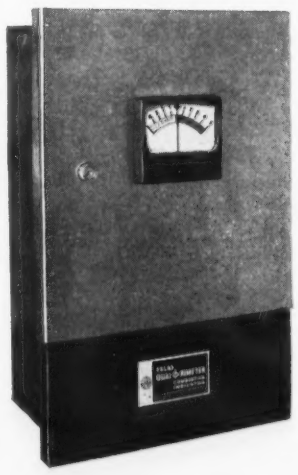
Browning . . . . OUR 75th YEAR

FOR PROMPT DEPENDABLE SERVICE CONSULT YOUR BROWNING DISTRIBUTOR

For more details circle NED-18 C1 on enclosed inquiry slip

for perfect combustion control . . .

SELAS **QUAL-O-RIMETER*** COMBUSTION INDICATOR



It's *new* from Selas! The QUAL-O-RIMETER Combustion Indicator accurately indicates changes in flame characteristics caused by variations in gas fuel supply and air/gas mixture. Extremely sensitive, this compact instrument detects and indicates changes as little as ±5 Btu in fuel gas and ±0.5% air in air/gas mixture in seconds! Changes in flame configuration are indicated just as quickly.

By presampling air/gas mixtures to ovens, lehrs, furnaces and brazing machines, the QUAL-O-RIMETER permits proper adjustment of fuel ratios before production is adversely affected. Want specifics? Write for Bull. Q-2.

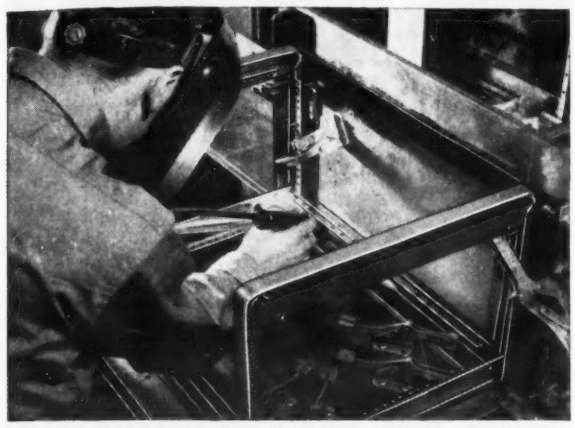
SELAS CORPORATION OF AMERICA
193 Dreshertown Rd.
Dresher, Pa.

HEAT AND FLUID PROCESSING ENGINEERS
DEVELOPMENT/DESIGN/CONSTRUCTION

SELAS

*T. M. Reg. Applied For

For more details circle NED-19 C1 on enclosed inquiry slip



EMCOR CABINETS OFFER MORE EXTRA ADVANCED DESIGN AND QUALITY CONSTRUCTION FEATURES

- 7" high, 16" gauge steel center strut for easy equipment mounting, greater over-all strength.
- 14 gauge steel frame construction assures greater ruggedness and rigidity.
- Heliarc* welds and electronically controlled spot welds provide superior strength.
- Continuing research and development by Roy C. Ingersoll Research Center maintains EMCOR metal cabinetry leadership.

*Registered trademark of Linde Air Products Co.

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Originators of the Modular Enclosure System

INGERSOLL PRODUCTS
Division of Borg-Warner Corporation
630 CONGDON • DEPT. 1247 • ELGIN, ILLINOIS

BORG-WARNER

For more details circle NED-20 C1 on enclosed inquiry slip

compare size
compare capacity
compare price

. . . of any dockboard with LANGSENKAMP'S ORIGINAL

Super Strength Aluminum DOCK PLATE

12,000 lbs. capacity...
Light... one-man lifts it easily!

24" X 48" SIZE
STILL AS LOW AS
$49.00

- 9 styles — over 65 stock sizes.
- Special alloys give extra strength and durability to meet today's increased freight handling requirements.
- Exclusive — optional, abrasive safety surface gives permanent non-skid protection even if wet!

Write today for complete catalog and prices.

F. H. LANGSENKAMP CO.
227 E. SOUTH ST. • INDIANAPOLIS 4, INDIANA

For more details circle NED-21 C1 on enclosed inquiry slip

glass skylight troubles?
INSTALL WASCO SKYDOMES!

This Brooklyn, New York warehouse was plagued with leaky, broken glass skylights requiring frequent repair and replacement. Constant film of dirt and grime blocked out daylight.

Maintenance costs disappeared! Weather-proof, shatter-proof, all-acrylic Wasco Skydomes shun dirt, admit more daylight. Built-in condensation drainage channel assures leakproof installation.

Glare-free Wasco daylighting opens up dim interior areas, cuts electricity costs, permits fuller use of floor space. Old skylights need not always be ripped out, can often be covered with Wasco Skydomes. Special mountings for easy, inexpensive installation. Wide variety of sizes, shapes, densities.

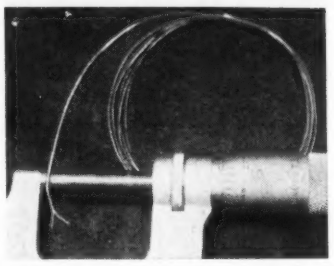
FOR INFORMATION, contact Wasco. We'll gladly furnish the name of a qualified applications engineer.

WASCO SKYDOMES

Wasco Products, Inc., 5 Bay State Rd., Cambridge 38, Mass.

For more details circle NED-22 C1 on enclosed inquiry slip

SUBMINIATURE THERMOCOUPLE
features rapid response, long life

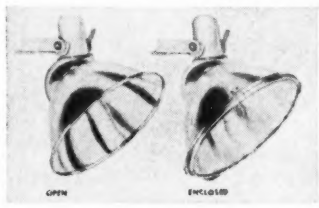


Small diameter of this subminiature metal-sheathed thermocouple permits its use in inaccessible places. Its 0.001-in. diameter wires are surrounded by a ceramic insulation and encased in a 0.010-in. diameter metal sheath. Small mass at the point of hot junction contributes to the rapid response of the thermocouple. Accuracy is to ISA recommended practice. Intermediate diameters from 0.010 to 0.025 in. are also offered.

• **Pyro-Electric, Inc.**, Muskin Road, Walkerton, Ind.

For more details circle NED-23 C1 on enclosed inquiry slip

FLOODLIGHTS
dual reflector boosts light output

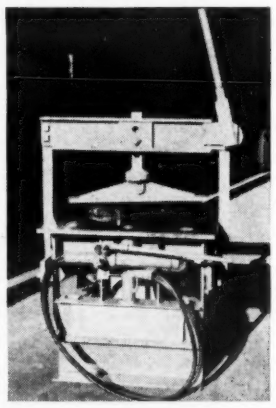


Light usually trapped in the socket housing is reflected by an auxiliary inner floating reflector of the Intenso Econoflood floodlight. Used to illuminate parking, work, or storage areas, lights are offered in five beam spreads from 18 to 100 degrees. They can be relamped from front or rear with incandescent or mercury lamps, and are offered with base, pole, pipe, and vertical surface mounting accessories. One-piece aluminum hood is weathertight. Open and closed models are shown.

• **Appleton Electric Co.**, 1701 W. Wellington Ave., Chicago 13, Ill.

For more details circle NED-24 C1 on enclosed inquiry slip

STRAIGHTENING PRESS
develops up to 10 tons of force

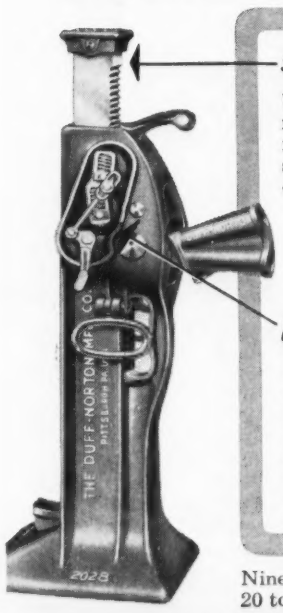


Though developed originally for foundry flask straightening, this Flaskonditioner hydraulic press is adaptable to many other straightening, forming, shearing, and assembly operations. Pressures up to 10 tons are readily applied with a few strokes on the hand pump, and the hydraulic ram can be located in three or more positions. The clamp carriage is mounted on ball bearings so that it moves easily forward and back to apply ram force exactly where needed. A 20-ton ram is optional.

• **Claude B. Schneible Co.**, Box 296, Roosevelt Park Annex, Detroit 32, Mich.

For more details circle NED-25 C1 on enclosed inquiry slip

Duff-Norton Ratchet Jacks
are safer...last longer



safer...
because the forged steel rack bar on Duff-Norton ratchet jacks is larger and stronger than the rack bar on any other make. Also, these jacks can not trip under load which guards men and equipment.

last longer...
because the exclusive spring mechanism makes maintenance easy. It can be adjusted, repaired or replaced without taking the jack apart. Tension can be tightened by the turn of a screw.

Nine models—capacities from 5 to 20 tons. Ask your distributor.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-26 C1 on enclosed inquiry slip

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IDEAL
"UNIVERSAL"
ELECTRIC ETCHERS

ELIMINATE inventory mix-ups, lost tools, parts, label errors.
SAFE and QUICK as a pencil.

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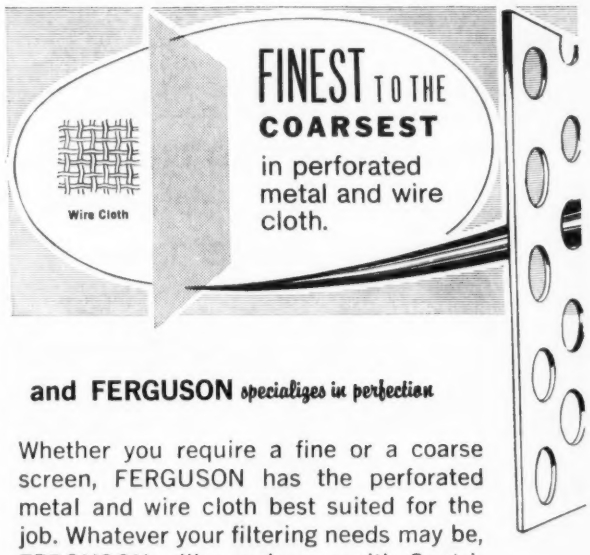
Every plant has dozens of uses where Ideal Etchers save money and time! Marks can't be changed or overlooked. Far cheaper than tags and special plates. "Universal" model gives you 4 etching heats for all conductive metals — 120 to 400 watts. Other models for all types of work. Make your mark easier, faster in complete safety.

IDEAL INDUSTRIES, Inc.
1032-C Park Ave.
Sycamore, Illinois

For more details circle NED-27 C1 on enclosed inquiry slip



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FERGUSON PERFORATING & WIRE CO.
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DANLY
DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Ave., Chicago 50, Illinois

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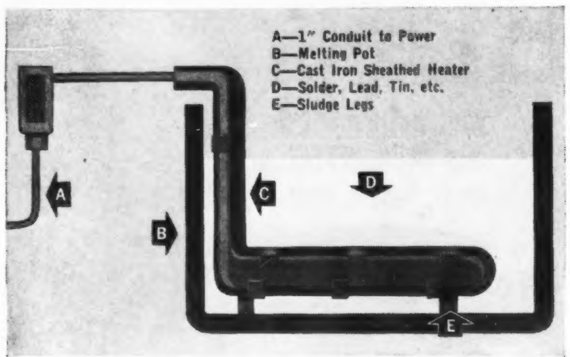

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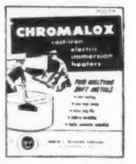

Write for Bulletin PD-106 which gives complete details.

CHROMALOX ELECTRIC HEAT

Edwin L. Wiegand Company WI-2

7509 Thomas Boulevard, Pittsburgh 8, Pa. • Phone: CHurchill 2-6400

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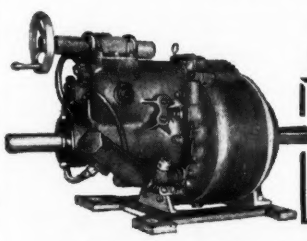

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Here's a shock-proof, fool-proof, labor-saving welding gun for shop or assembly line that spots or welds from one side. For welder or mechanic — **the only gun that bonds stainless or dissimilar metals using stainless steel or conventional steel electrodes.** The NO-ARC gun is easy to use . . . is rugged and dependable . . welds 30-gage or heavy plate without arc flash. Operates on AC or DC.

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YES, the bearings illustrated are identical, except for degree of precision. Because of the precision differences, there is a substantial difference in cost . . . NICE can provide bearings incorporating any degree of precision between the higher priced "ground all over" series 1600 and the low cost "unground" series 3000.

Typical "ground all over" series 1600 "precision" bearing.

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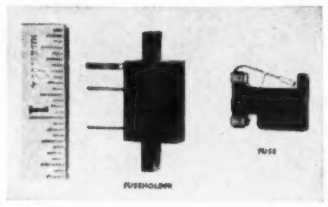
For more details circle NED-39 C1 on enclosed inquiry slip

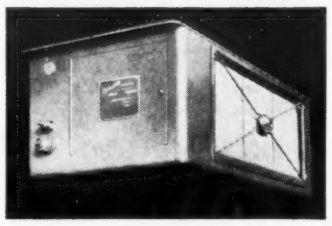
SIGNALLING FUSE HOLDER
subminiature type rated to 10 amp



Multiple mounting of fuses in extremely small places is possible with this Buss GMT fuse and HLT holder. They can be panel mounted on ¼-in. centers, and wafer thinness of fuse permits removal without disturbing adjacent fuses. When the fuse opens, a color flag signals the open circuit. The spring carrying the flag also completes an alarm circuit to light a lamp or ring a bell. Fuses are available in ratings to 10 amp. • **Bussmann Mfg Div., McGraw-Edison Co.,** University at Jefferson, St. Louis 7, Mo.

For more details circle NED-40 C1 on enclosed inquiry slip

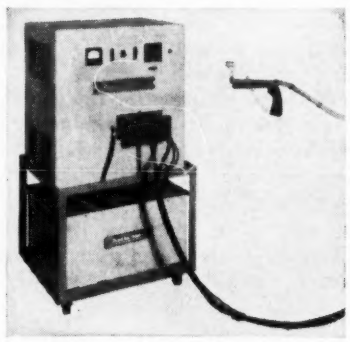
AIR CONDITIONER
for heavy duty industrial use



Usable in ambient temperatures up to 180° F, in odoriferous and gas atmospheres, and where dirt persists, Correct-Air air conditioner heats in winter, cools and dehumidifies in summer, and removes dirt, odors, and noxious fumes. It is powered by ⅓-hp motor and delivers 700 cfm. Heating capacity of the 4000-w is 13,600 Btu per hour. • **James Campbell Smith, Inc.,** 4057 Erie St., Willoughby, Ohio.

For more details circle NED-41 C1 on enclosed inquiry slip

INDUCTION METAL HEATER
for brazing, soldering, heating



Suited for induction metal heating applications in hard-to-reach areas, the Reevelec Model L6E Porta - Heater includes a 2½-kw generator with alternating and direct-current overload circuit breakers and timer. The integrated machine can be used for various brazing, soldering, and metal treating uses. It is equipped with 10 ft of flexible RF power cable, with water cooled conductors running inside a triple-insulated hose. Pistol grip handle facilitates heating parts in a variety of positions. Caster equipped unit incorporates an enclosed water recirculator for cooling RF conductors, work coil, and other components. Price is about $2200. • **Reeve Electronics Inc.,** 609 W. Lake St., Chicago 6, Ill.

For more details circle NED-42 C1 on enclosed inquiry slip

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- Pipe sizes to 3"
- Steel, cast iron or brass bodies
- Brass, steel or stainless trim
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FULFLO gives you what you want in safe, trouble-free and quiet operation for any hydraulic system. Shear-closing action eliminates chattering; sliding piston gives full flow opening; distinctive construction allows easy adjustment within the valve's pressure range or change of the pressure range. Whatever your requirement . . . for O.E.M. use or replacement service . . . there's a FULFLO Oil By-Pass Relief Valve designed just right, built right and priced right, too!

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FOR EXTRA CONVENIENCE
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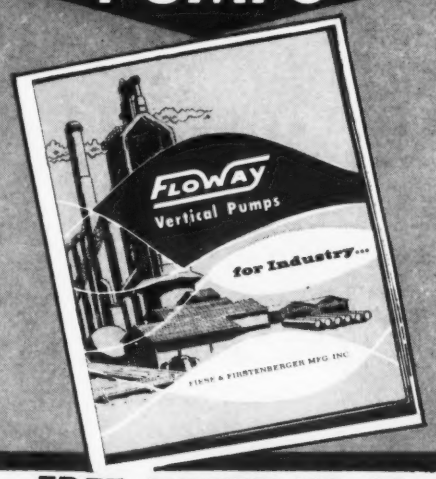
FOR COMPLETE INFORMATION, request a copy of the FULFLO Valves Mechanical Data Book with complete specifications and engineering data.

"FULFLO"

THE FULFLO SPECIALTIES CO.
INCORPORATED
412 Fancy Ave. Blanchester, Ohio

For more details circle NED-43 C1 on enclosed inquiry slip

FAST FACTS ON INDUSTRIAL PUMPS

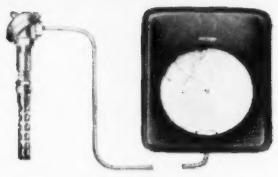


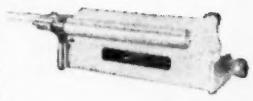
FREE BULLETIN NO. 14

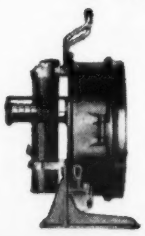
FLOWAY Pumps
MANUFACTURED BY
FIESE & FIRSTENBERGER MFG., Inc.
2494 Railroad Ave Fresno, Calif.

For more details circle NED-44 C1 on enclosed inquiry slip

WIDEST RANGE OF EQUIPMENT FOR HUMIDITY RECORDING







No matter what problems you face in obtaining suitable humidity measurements and records, the unique versatility of Foxboro Humidity Instrumentation offers an appropriate solution . . . recorders, recording controllers, and indicators for relative humidity (hygroscopic type) and wet-and-dry bulb measurements, and, using the exclusive Dewcel element, direct reading dewpoint and absolute humidity measurements. Available in portable, close-coupled and long-distance types; with round or rectangular cases.

Get the complete story in Bulletins 11-11A and 11-14A. **The Foxboro Company, 663 Neponset Avenue, Foxboro, Mass., U.S.A.**

FOXBORO HUMIDITY INSTRUMENTS

For more details circle NED-45 C1 on enclosed inquiry slip

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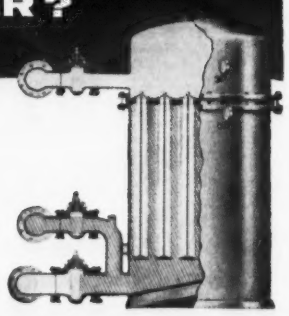

Why not investigate the many advantages of the ADAMS IWF INDUSTRIAL FILTER for all your water needs? Manufacturing skill backed by 25 years of building water and chemical filters insures you top value for your purchasing dollar. Rugged construction and the Adams Poro-Stone, Poro-Carbon and other permanent metallic filter media practically eliminate maintenance problems. The exclusive Adams air pressure dome dynamically backwashes and flushes out accumulated solids in minimum time — with minimum labor — to give top value for your production dollar. There is an Adams design to solve all your liquid polish filtration problems. Why not investigate the many advantages of an Adams unit in your plant? Bulletin #651 has all the information. Interested in chemical filtration? Ask for your copy of bulletin #431. Automatic filtration? Ask for bulletin #909. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

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For more details circle NED-46 C1 on enclosed inquiry slip

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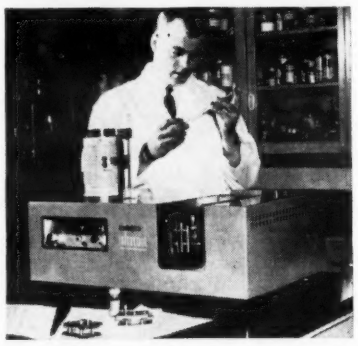
For more details circle **NED-48 C1** on enclosed inquiry slip

TRAVERSE MOVEMENT INDICATOR indicates carriage, tool position

Machine carriage, slide, or tool position in relation to work is continuously indicated within 0.001 in. by the Trav-A-Dial indicator. Unit attaches to any machine tool, and measurements are made by a gage wheel contacting the way or machined surface. Motion is transmitted to a dial indicator equipped with a bezel for instant zero adjustment. Dial knob, graduated in inches and 1/10 in., gives a continuous motion record up to 6 in. of travel. Unit remains free from backlash, slippage, and bearing degradation even after 5 years of normal use. • **Southwestern Industries, Inc.**, 5880 Centinela Ave., Los Angeles 45, Calif.

For more details circle **NED-49 C1** on enclosed inquiry slip

INFRARED SPECTROPHOTOMETER for analysis of organic compounds



Complete 2.5 to 15-micron scan of the NaCl spectral region is automatically recorded on notebook size paper in 3 min by the low cost Model 137-B infrared spectrophotometer. Used for the analysis of organic compounds, the double-beam instrument incorporates fast optics to enable an analyst to triple the output of the previously available 12-min Model. When higher resolution is required, or where quantitative and qualitative accuracy is more important than time saving, the 12-min scan program can be selected by throwing a switch. It operates on 105-120-v, 60-cycle ac. A broad range of sampling accessories is available. • **Perkin-Elmer Corp.**, Danbury Road, Norwalk, Conn.

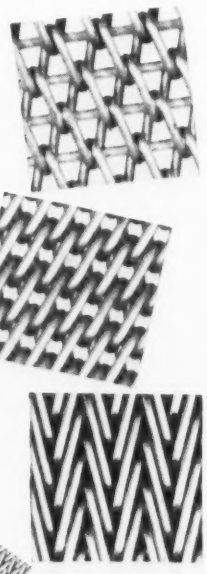
For more details circle **NED-50 C1** on enclosed inquiry slip

Drafting Templates

Rapidesign, Inc.—Over a hundred different drafting templates covering electrical, ellipse, engineering, general, lettering, architectural, processing, and other needs are shown in 20-page Catalog 65. Made of durable plastic, templates speed many common drafting operations.

For more details circle **NED-51 C1** on enclosed inquiry slip

THE "RIGHT" BELT WILL DO THE JOB *BETTER!*



No two product flow or processing problems are alike. No one belt design can meet all JOB requirements. Ashworth's manufacturing range covers many designs and many constructions in each design family.

Ashworth representatives are trained to develop the field data necessary to enable Ashworth engineers to recommend the "Right" belt for the JOB. Whatever your material flow problem during processing . . . consult an Ashworth representative.

Literature available, write to:

ASHWORTH BROS., INC.,
WINCHESTER, VIRGINIA
Sales Offices in Principal Cities

For more details circle **NED-52 C1** on enclosed inquiry slip

JOHNSON

Standard-Universal Drilling & Tapping Heads

- Exclusive steel re-enforced band prevents hood damage.
- Exclusive two milled t-slot provides greater rigidity.
- Stub and lower spindle hexed for quick changes. Universal points are sealed in grease and snap quickly in place.
- Precision milled arm spindle units are easily replaced as unit and are available in various lengths and sizes.
- Aluminum alloy hood castings are tapered inside and out distributing drill feed thrust even over entire area.
- Neoprene sealed gear boxes keep out grit and dirt.
- Drilling area to 20" diameter—Spindle centers to a minimum of 3/8".

Many other variations can be accomplished by using standard components. Whatever your problems may be, our experienced engineering and production staff stands ready to supply you with a JOHNSON head to fit your needs.

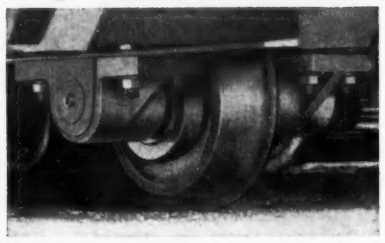
New economical models now available.
Write for literature, prices and name of your jobber.

JOHNSON DRILL HEAD COMPANY
23RD AVENUE AND 20TH ST., ROCKFORD, ILLINOIS

For more details circle **NED-53 C1** on enclosed inquiry slip

IRWIN Packaged-Wheel ASSEMBLIES

SAVE YOU 50%



- Such fantastic savings up to 50% are due to increasing acceptance of Packaged-Wheel Assemblies nationwide! Our streamlined manufacturing methods and the exclusive operating principle of the Assembly eliminates troublesome installation and maintenance for long-lasting proven service—and the huge savings resulting are passed on to our customers.
- Rugged in-plant operation that beats down furnace and industrial car mobility fast, can be stopped in its tracks by IRWIN Packaged-Wheel Assemblies . . . for the life of the equipment!
- IRWIN Packaged-Wheel Assemblies are designed and built to absorb shocks and crushing impacts for all conventional cars up to 25-ton capacity with 10" to 20" standard diameter wheels. IRWIN Assemblies are available for higher capacity equipment and in various wheel sizes and types.
- IRWIN Packaged-Wheel Assemblies are equipped with Timken roller bearings for applications up to 300°F. A special high temperature series is available for applications up to 550°F.

We also manufacture flat tread, tapered tread and double-flanged wheel assemblies for rotary hearths, cranes and special operational equipment.

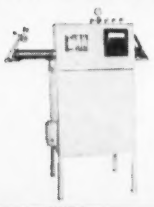
Call or write for IRWIN Assembly literature and price lists.

IRWIN-SENSENICH CORP.
WHEEL AND CAR MANUFACTURERS SINCE 1900
P. O. BOX 311 IRWIN, PA. UNderhill 3-5000 IRWIN

For more details circle **NED-54 C1** on enclosed inquiry slip

1200°C in less than 10 minutes!

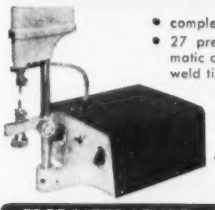
with **STEWART CONTROLLED ATMOSPHERE FURNACES**



- cleaner operation
- faster heating
- faster cooling
- lower operating cost

- utilizes thermal tube as heating element instead of conventional, wire-wound ceramic muffles
- exceptional ease of maintenance; long service life
- air or controlled atmosphere, with single or mixed gases
- accurate pyrometer control of temperature

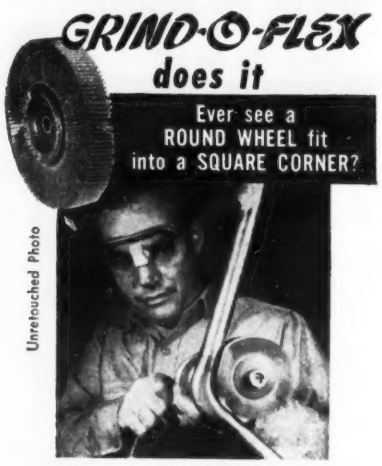
STEWART
Precision Resistance "Spot" Welders



- complete package unit; built-in electronic timer
- 27 precision controlled heat positions; automatic or manual firing; 1/120 or 1/60 second weld time
- portable, lightweight; no installation, no holes to drill
- flexible cable foot control, operable from any location
- universal electrode mount; instantly adjustable
- fully adjustable weld pressures

FREE LITERATURE — Write Today:
STEWART ENGINEERING CORPORATION
SANTA CRUZ • CALIFORNIA

For more details circle **NED-55 C1** on enclosed inquiry slip

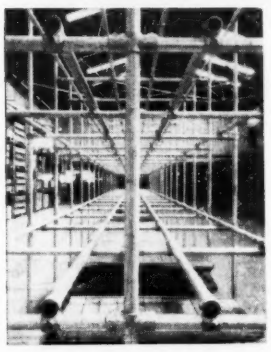


Here's a 3-inch diameter Grind-O-Flex wheel smoothing and blending draw marks and welds on a tubular frame. Note how it shapes itself to a contour.

MERIT PRODUCTS, INC.
first choice is always a product of Merit
3691 Lenawee Ave., Los Angeles 16, California

For more details circle **NED-56 C1** on enclosed inquiry slip

NO NAILING, NO WELDING WHEN YOU USE KEE KLAMPS



What do *you* use for building storage and pallet racks, shelving, platforms, cat walks, scaffolding and things like that? Pipe is best, but has been too hard to use because of all the cutting and threading that had to be done.

BUT NOT ANYMORE! Today . . . thanks to Kee Klamps, those miracle *Threadless Fittings* . . . pipe is now the easiest . . . fastest . . . generally the most economical of all! Because KEE KLAMPS do away with all pipe-threading, actually reduce pipe-cutting by as much as 80% and more.

Think of it! Using plain Pipe & KEE KLAMPS, you can eliminate all nailing, bolting, welding, threading . . . and almost all cutting! Now, even an unskilled worker can put up a framework of pipe in a *fraction* of the time it used to take an experienced carpenter or welder to build one out of wood or angle iron. And much better, too! Because pipe is stronger, waterproof, fireproof, won't warp or crack.

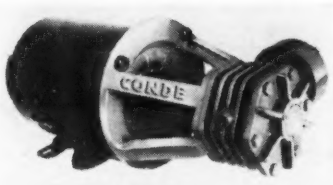
KEE KLAMPS USED THROUGHOUT THE WORLD

Send right now for FREE File Folder that tells all about KEE KLAMPS.

KEE KLAMPS NORTH AMERICA LIMITED
1070 WILLIAM STREET: BUFFALO 6, NEW YORK
In Canada: P. O. Box 370, Station T, Toronto 19, Ontario

For more details circle **NED-57 C1** on enclosed inquiry slip

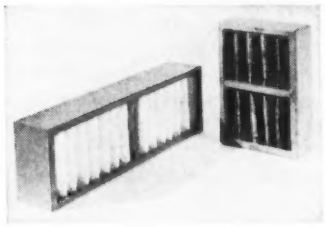
AIR PUMP
no-load rated to 2.5 cfm



Available in both C-flange and pedestal mount, this No. 1 Dri-Air pump with no-load rating of 2.5 cfm has high vacuum and increased pressure capacities. Smallest model in the company's line, the No. 1 unit measures about 4¼ in. OD and weighs 8 lb. • **Conde Milking Machine Co.**, Pump Div., Sherrill, N. Y.

For more details circle **NED-59 C1** on enclosed inquiry slip

DISPOSABLE AIR FILTERS
have 80-95 per cent efficiencies



These disposable interception air filters are made of pleated glass mat material and are suited for use in electronic cabinet cooling, room air conditioners and circulators, and similar applications. Filters consist of a two-piece rigid chipboard frame supporting the Aerosolve media. This design is adaptable to a variety of sizes and shapes to provide the required filter area in the space available. Pleated design makes possible use of 4 sq ft of filter media in a 20 x 6 x 3½-in. unit. Minimum efficiency is 90 per cent. Second unit is 10½ x 7 x 3 in. and has an 80 to 85 per cent efficiency. Special sizes can be made. • **Cambridge Filter Products Corp.**, 738 Erie Blvd. E., Syracuse 1, N. Y.

For more details circle **NED-60 C1** on enclosed inquiry slip

VACUUM FLOOR CLEANER
equipped with silencer muffler

Dust, dirt, trash, shavings, cloth scraps, and such bulky objects as coffee cups are picked up by the suction of the Floormobile vacuum floor cleaning machine. Powered by gasoline or LP-gas engine, it has a muffler that eliminates virtually all exhaust noise. A glass fiber insulator keeps the outside of the muffler cool. Cleaner covers up to 20,000 sq ft per hour, and can be used to clean up to walls, posts, machines, and cartons. Clean exhaust air is returned to the area. • **Handling Devices Co.**, 34 Concord Lane, Cambridge 38, Mass.

For more details circle **NED-61 C1** on enclosed inquiry slip

P-K SOLIDS FLOW VALVE

Used wherever flow of solids has to be controlled. For hoppers, tote bins, blenders, etc. Neoprene lined, stainless steel disc and stems. Priced as low as $96.00.

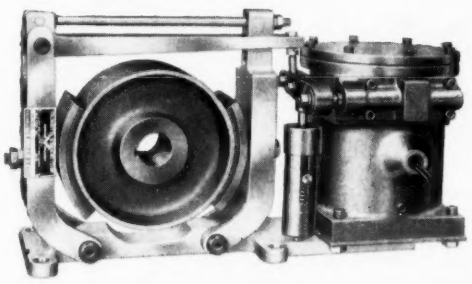
FREE BULLETIN NO. 16-P
Contains information on sizes and accessories and all P-K Processing Equipment.

Patterson Kelley
Chemical and Process Equipment Division, East Stroudsburg, Pa.

For more details circle **NED-62 C1** on enclosed inquiry slip

TROMBETTA SOLENOID CORP.
MILWAUKEE WISCONSIN U.S.A.
329 N. Milwaukee St. • Phone BRoadway 1-8347

TSX-500 Line of Explosion-Proof Solenoid-Operated Brakes from 10 to 75,000 Ft. Lbs. Capacity

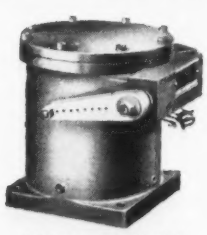


SAFE for Use in Fire-Hazardous Areas

Designed expressly for machinery used in handling and transferring hazardous materials and flamable liquids. Solenoid is enclosed in a sealed, explosion-proof tank filled with oil (see below). Long stroke solenoid is fast operating, fast releasing. All difficulties resulting from slow operating torque motors and other makeshift operators completely eliminated.

LONGER PERIODS BETWEEN ADJUSTMENTS: Long stroke solenoid uses only 65% of stroke to release brake; other 35% for reserve. Lining with most constant coefficient of friction gives uniform service. Made for all frequencies, and for all voltages up to 750 volts — AC and DC.

EXPLOSION PROOF SOLENOIDS AND SOLENOID OPERATORS



FX-326 SOLENOID
FX-300 LINE
EXPLOSION PROOF
SOLENOIDS

R2DX-326
RDX-300 LINE

The FX-300 explosion proof solenoids and the RDX-300 explosion proof solenoid operators have a variable stroke. For the standard models at minimum stroke, the capacity at 85% voltage ranges from 8 lbs. at 0.47" stroke to 300 lbs. at 1.67" stroke. At maximum stroke, the capacity ranges from 3 lbs. at 1.25" stroke to 100 lbs. at 5" stroke.

By the use of external levers longer than the standard ones, the maximum stroke can be increased with corresponding decrease in pull.

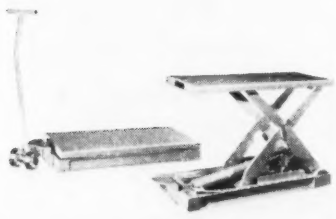
For external levers twice as long as the standard ones, the capacity at maximum stroke ranges from 1.5 lbs. at 2.5" to 50 lbs. at 10". Other combinations are possible.

Ask for Bulletins EE-191 and EE-193 or our complete catalog. See our catalog in Sweet's Catalog Service. There is a Trombetta solenoid for every imaginable requirement.

TROMBETTA SOLENOID CORP.
IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

For more details circle **NED-63 C1** on enclosed inquiry slip

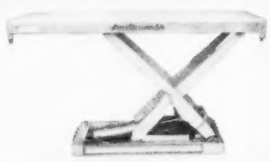
FROM SKID LEVEL



Series L — Average Loads
Portable models slide readily under standard skids. May be shifted from location to location as machine time and need warrant. No installation cost, simply plug in.
Capacities: 500–2,000–4,000–6,000 8,000–12,000 lbs.

Series LT — Long Loads
For fixed position at production equipment either on floor surface, or in shallow excavation with table top becoming an integral part of the floor. Longitudinal stability a feature.
Capacities: 1,000–4,000–8,000–12,000 16,000–24,000 lbs.

Series LD — Wide Loads
Designed to give exceptional lateral stability. Note that all models are completely self-contained, have no hampering superstructure, give free access to work load from all angles.
Capacities: 1,000–4,000–8,000–12,000 16,000–24,000 lbs.



Series LH — High Work Positions
A longer leg adaptation of Series L models, increasing the range of their extended heights to meet unusual requirements for lifting beyond normal work-positioning elevations.
Capacities: From 1,000–10,000 lbs. depending on rise.

UP UP UP

TO WHATEVER WORKING HEIGHT YOU WANT THE EASY WAY

In industry after industry, the Southworth Lift Table is cutting handling costs by providing an easy way of elevating skid or palletized loads to a correct working height for machine, process or assembly operations. The required lift may be in one stage from skid level to an established working level, as with dies, castings and fixtures, etc. Or it may entail frequent adjustment of stock height, as in sheet feeding, sorting and inspection. Either way, the lift desired is a mere matter of simple switch control.

Tables illustrated are basic models. Features common to all are a scissor-type mechanism that is rugged, compact and hydraulic powered; a hinged platform giving access to self-contained motor and pump assembly even in a totally collapsed position; low installation and maintenance costs; full and fool-proof automatic control. Southworth, nationally known as a manufacturer of precision equipment, also offers its engineering services to those wishing to adapt these Tables for specific applications.

For Further Details Write:
SOUTHWORTH MACHINE CO.
613 WARREN AVENUE, PORTLAND, MAINE

For more details circle **NED-58 C1** on enclosed inquiry slip

YOU NEED A . . .

DUPOR WATER COOLED **SMOKE MASK**

A complete combination of respirator and goggles that provides lung and eye protection for painters, foundrymen, smelters, oil refiners, chemists, firemen, etc. The respirator is water-conditioned with all incoming air passing through cool, clear water. The goggles are the famous "Nod & Shake" fog-proof and gas-tight type. No finer protection, anywhere! Order sample today, $5.00 postpaid.

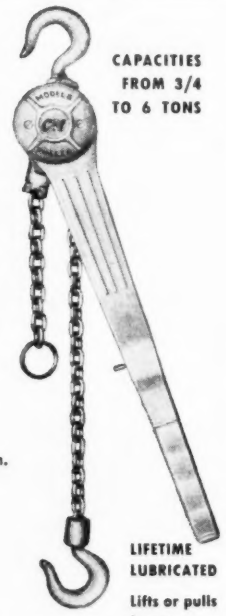
H. S. COVER, DEPT. 305, SOUTH BEND 14, INDIANA

"Respirators for Industry since 1894"

For more details circle **NED-64 C1** on enclosed inquiry slip

CM PULLER

for RUGGED STRENGTH and GREATEST NUMBER of USEFUL FEATURES



CAPACITIES FROM 3/4 TO 6 TONS

LIFETIME LUBRICATED

Lifts or pulls in any position

SMOOTH OPERATION
Easy operating, accurate spotting, effortless lowering.

POSITIVE BRAKING
Holds load automatically with non-slip action.

RUGGED CONSTRUCTION
Built of heat treated alloys of steel and aluminum.

SUPER-STRENGTH CHAIN
Famous CM-Alloy link chain; long-lasting, non-kinking, self-cleaning.

• Send for bulletin and name of your local distributor

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
NEW YORK • CHICAGO • CLEVELAND
In Canada: Columbus McKinnon Limited, St. Catharines, Ontario

For more details circle **NED-65 C1** on enclosed inquiry slip

American **UN-A-LOK® LINERS**

PATENT PENDING

***INSTANT* INSTALLATION**

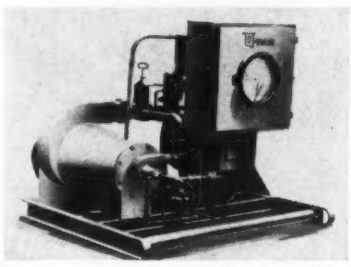
Workers whiz right through bushing layout and installation with speedy Un-A-Lok Liners. Screw hole layout, drilling, tapping, lock screws and holding clamps are eliminated! Perfect for plastic tooling. Available in A.S.A. Ground and Unground finishes for any standard A.S.A. Slip Renewable Bushing.

Get full list of Un-A-Lok Liners and complete line of drill jig bushings in the new American Catalog. Write for Free copy today.

American **DRILL BUSHING CO.,** 5107 PACIFIC BLVD.
LOS ANGELES 58, CALIFORNIA TELEPHONE LUdlow 3-1122 TWX 1315—FAX LOS ANGELES

For more details circle **NED-66 C1** on enclosed inquiry slip

PACKAGED AIR HEATER
100,000 to 10 million Btu sizes



High combustion efficiency and absence of impurities are features of the Q-Pak packaged direct-fired air heater for heating process air and liquids, furnaces and ovens, dryers, waste disposal units, and chemical reactors. Heart of unit is the Uniflux fuel reactor, a high intensity mixer in which combustion air is brought tangentially into an annular space around a combustion chamber. This produces cooling effect and enables fuel reactor to be constructed entirely of metal. Absence of refractory lining permits immediate response to changing heat requirements, up to 3000° F. Sizes range from 100,000 to 10 million Btu/hr. Air purge, flame failure safeguards, and continuous pilot with spark ignition are among safety features. • **Black, Sivalls & Bryson, Inc.,** 7500 E. 12th St., Kansas City 26, Mo.

For more details circle **NED-67 C1** on enclosed inquiry slip

FLEXIBLE PLANT DOORS
self-closing type resist impact

Fabricated to fit any size opening, Peelle-Richmond Flex-A-Matic industrial plant doors are made of tough, flexible, ½-in. thick two-ply rubber. This material resists impact by hand, fork lift, or power trucks of any kind. They have double-acting gravity V-cam hinges that require a minimum of maintenance or adjustment, an 11-gage double steel frame, Plexiglas windows, and an air seal. The quiet operating doors open easily and close gently. Optional features include neoprene and white food quality rubber, magnet catches for extreme draft conditions, stainless steel parts, and wide angle hinges. • **Peelle Co.,** 47 Stewart Ave., Brooklyn 37, N. Y.

For more details circle **NED-68 C1** on enclosed inquiry slip

Corrosion Resistant Glass Drainlines

Corning Glass Works—Advantages of corrosion resistant, "double-tough," Pyrex glass drainline and fittings for the disposal of chemical wastes are evaluated in 16-page Bulletin PE-30. Application data, photographs, schematic drawings, prices, and charts are included, along with a sample specification sheet.

For more details circle **NED-69 C1** on enclosed inquiry slip

MAKE EFFICIENT SYSTEMS from BUSCHMAN IN-STOCK units

Buschman standardized portable conveyors save far more than they cost, handling all kinds of packages, in large and small operations. Select wheel, roller, belt components from stock, to install your own conveyor line. Or build your own Overhead Trolley Cable Conveyor from Buschman standardized units. Consult our agent or write direct.

Complete Conveyor Systems for all Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities; See Yellow Pages

Buschman CONVEYORS

The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio

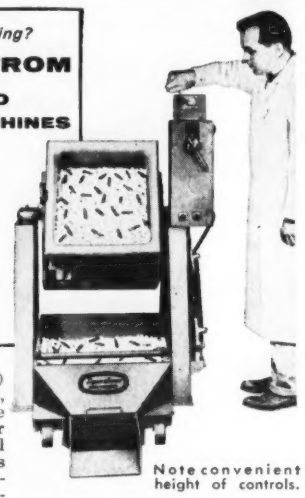
For more details circle **NED-70 C1** on enclosed inquiry slip

Want low-cost parts finishing?

NOW—CHOOSE FROM 7 NEW ALMCO VIBRASHEEN MACHINES

TO DO YOUR
- DEBURRING
- DESCALING
- BURNISHING
- SURFACE REFINEMENT
- CLEANING

10 to 100 Times FASTER!



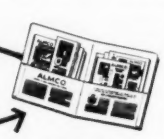
Note convenient height of controls.

IT'S A FACT! With the seven (7) new Almco Vibratory Machines, you can expect finishing time cycles 10 to 100 times faster than with standard horizontal barrel finishing equipment. It's a significant production breakthrough, made possible by creating constant vibratory motion to activate the entire mass of media and parts in the finishing container, as compared to only 20% activation with conventional barrel finishing methods.

The uniform vibratory motion of the media in recessed areas, blind holes and small I.D. dimensions make it possible to obtain optimum results on a multitude of applicable parts with intricate configurations that can not be completely processed in standard horizontal barrel machines.

Investigate today, the ALMCO *Vibra-Sheen way!*

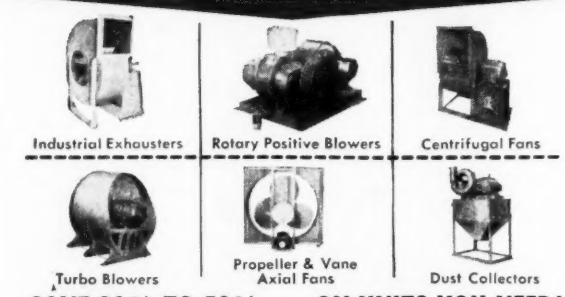
FREE SEND FOR ALMCO'S NEW PRODUCT ALBUM



ALMCO
Queen Products Division
King-Seeley Corporation
173 E. Main St.
Albert Lea, Minnesota

For more details circle **NED-71 C1** on enclosed inquiry slip

REBUILT and NEW AIR MOVING EQUIPMENT



SAVE 30% TO 50% . . . ON UNITS YOU NEED!

We can supply all leading makes of air moving equipment . . . *fully guaranteed.* Whether you need 1 cu. ft. of air or 100,000 for any type of industrial application, you'll find the equipment you need in our stock.

FREE

AIR MOVING EQUIPMENT DATA FOLDER

With this handy MEYER DATA FILE you can quickly select the unit you need and save money too. Data Folder contains engineering data sheets on Steel Plate Exhausters, Rotary Positive Blowers and Pneumatic Conveyors . . . plus equipment stock lists on new and rebuilt air moving units of every description and brand with current sales prices.

WRITE - TODAY

Wm. W. Meyer & Sons Inc.
8249 Elmwood Avenue
Skokie, Illinois

For more details circle **NED-72 C1** on enclosed inquiry slip

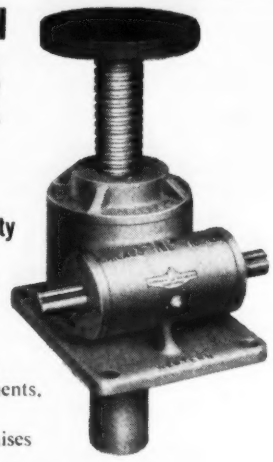
C. J. BREITENSTEIN CO.

8805-3 SHERIDAN DR. BUFFALO 21, N. Y. NF 2-8375
Western States: T. G. CULLEN, 3710 Grand Ave., Dept. 60, Oakland, Calif.

For more details circle **NED-73 C1** on enclosed inquiry slip

New from WESTERN

WORM GEAR JACKS



6 Models—2 to 50 Tons Capacity

For Accurate Positioning of Loads Weighing Several Hundred Tons

- Can be used singly, in tandem or in multiple jacking arrangements.
- Functioning as components of machinery or equipment—raises or lowers loads—horizontally to push—to apply pressure—as linear actuators. SELF-LOCKING ... NO CREEP!
- Holds heavy loads in position indefinitely when two or more jacks are tied together mechanically.
- Raise and Lower in *Exact Unison* when two or more jacks are coupled with Western Mitre Gear Boxes.
- Lifting screws made of alloy steel.
- All bearings are Timken tapered roller bearings.
- Alemite grease fittings.

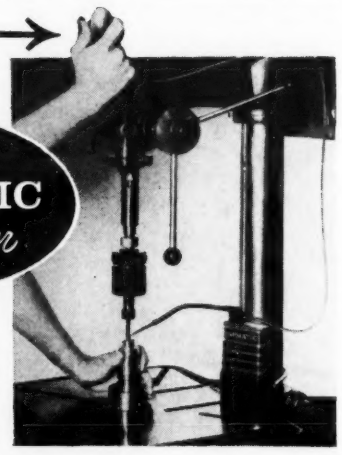
Standard raise is six inches. Raises up to 24 inches available on request.

9865 *Write for further Information*

WESTERN INDUSTRIES INC.
Industrial Products Division
2702 West 36th Place • Chicago 32, Illinois

For more details circle NED-74 C1 on enclosed inquiry slip

"Remote Control" hand or foot operation from any location



NEW TAPMATIC Fluid-Miser

Obsoletes time consuming brush & squirt can application of fluid!

TAPMATIC FLUID-MISER meters a few drops of cutting fluid to tool at operator's command, directs fluid exactly to cutting point or edge. Just squeeze the handy bulb attached to machine tool feed lever...NO WASTE, NO SPILLAGE, NO BREAK IN OPERATOR RHYTHM! Saves 50% of application time with ordinary dispensers, speeds work. Fast, simple; attaches to any machine.

Use FLUID-MISER with new **TAPMATIC DUAL-ACTION CUTTING FLUID*** for maximum cutting ease. **A few drops do the work of a full squirt**—simultaneously chill and lubricate!

MAKE A TEST TODAY! Trial Order: One Fluid-Miser applicator and one pint Tapmatic #1 Cutting Fluid—$6.95

*#1 for all metals except aluminum
#2 for aluminum only

Order thru your dealer or write direct

TAPMATIC CORPORATION
845 West 16th Street • Costa Mesa, California

For more details circle NED-75 C1 on enclosed inquiry slip

Easy portable finishing

With **ARO**

PORTABLE GRINDERS

Aro grinders help you get best results from back-up wheels, coated abrasives, or other attachments. Wide choice of tools for easy finishing . . . verticals, horizontals, right-angles . . . grinders, sanders, wire brushes, cut-offs . . . tiny high-speed turbines or heavy-duty 8" wheel jobs . . . plus wheel guards, collets, arbors, other standard accessories. All tools have *extra power* to maintain rated speed under load. Job-test an Aro Grinder in your shop. Ask your Aro distributor.

ARO® AIR TOOLS
AIR HOISTS • AUTOMATION TOOLS • ULTRASONIC CONTROLS
THE ARO EQUIPMENT CORPORATION, Bryan, Ohio
Aro of California, 3141 S. Grand Avenue, Los Angeles 7, California; Aro Equipment of Canada Ltd., Rexdale (Toronto) Ontario; Offices in all Principal Cities

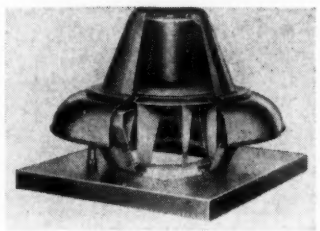
For more details circle NED-76 C1 on enclosed inquiry slip

HANDY CALCULATOR for engineers and designers

Practically any type of mathematical problem can be solved with this improved Type 2 Curta Calculator. It reportedly combines the accuracy, speed, and versatility of a desk calculator with the portability of a slide rule. Capacity is 11 digits on the keyboard, 8 on the indicator, and 15 digits on the answer dial. Made of stainless steel and anodized aluminum alloys, it weighs only 12 oz and is easily held in one hand. Multiplication, division, addition, subtraction, and multiple operations involving cubes, roots, percentiles, and trignometric functions can be handled. • **Curta Co.**, 14435 Cohasset St., Van Nuys, Calif.

For more details circle NED-77 C1 on enclosed inquiry slip

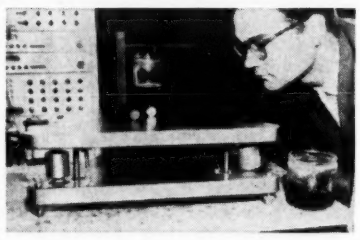
POWER ROOF VENTILATORS eight sizes handle 194 to 2788 cfm



Usable for ventilating industrial and commercial buildings and for exhausting fumes from factories, laboratories, and foundries, Model CRD centrifugal roof ventilators are made in eight wheel sizes with capacities from 194 to 2788 cfm. Open ball bearing motors are mounted in rubber for quiet operation. The balanced nonoverloading aluminum fan wheel moves air efficiently through the aluminum housing. • **American-Standard Industrial Div.**, 8111 Tireman Ave., Detroit 32, Mich.

For more details circle NED-78 C1 on enclosed inquiry slip

VIBRATION ISOLATING TABLE for testing and checking equipment



Sensitive instruments and equipment are protected from horizontal vibration and motion by this Tenlo TBV-1 vibration isolation table. Typical devices which can be supported on it are galvanometers, balances, optical benches, servo mechanisms, accelerometers, and sensors. It will isolate an instrument on its top platform from a maximum of ½-in. peak-to-peak horizontal excursion, or it can isolate the bottom platform and its surroundings from this same peak-to-peak vibration of the top platform caused by a supported vibrating device. Price is $275. • **Tenlo Research, Inc.**, 9424 Lyndale Ave. S., Minneapolis 20, Minn.

For more details circle NED-79 C1 on enclosed inquiry slip

Fast portable finishing

with **Nu-Matic** air-cushioned sanding wheels

Pressure of plate glass against Nu-Matic inflated wheel illustrates large "working surface" of abrasive backed by resilient drum.

Put a cushion of air behind your abrasive and you have the fastest, most versatile tool ever developed for portable finishing operations!

Only Nu-Matic inflated wheels give you the advantages that allow you to:

- put more abrasive grain on the work than any other wheel
- use flat or crowned abrasive bands . . . for rough or final finishing . . . on any material . . . and on any shaped surface!

TRY THEM FREE! Write for product literature and special free trial offer.

NU-MATIC GRINDERS, INC.
875 East 140th Street • UL. 1-7171 • Cleveland 10, Ohio

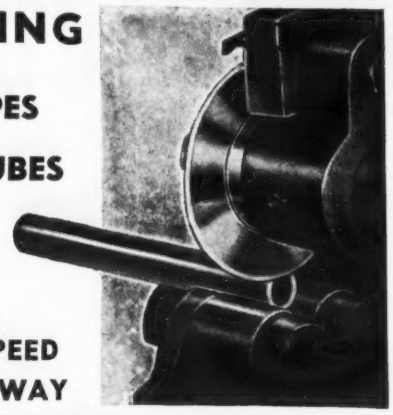
For more details circle NED-80 C1 on enclosed inquiry slip

SUPER LOW-COST CUTTING

CUT PIPES AND TUBES

FAST

THE SUPER-SPEED ROTARY WAY



CONTINENTAL ROTARY CUT-OFF MACHINES

fast—cut lengths in just seconds

economical—up to 100,000 cuts per cut-off wheel

saving—no waste loss of your material.

Air or manual. ⅜" to 12¾" O.D. Request Catalog.

Machine Rental Plan Available.

Continental machine co. SINCE 1919
2345 W. NELSON ST. • CHICAGO 18, ILL.

For more details circle NED-81 C1 on enclosed inquiry slip

HERC-ALLOY

The Original Alloy Chain

● Has many superior features—is lighter, therefore easier to handle...is long wearing...has high resistance to impact loading...is Inswell welded. Chain and all fittings are 125,000 p.s.i. tensile strength alloy steel.

● Write for Bulletin 100 covering Herc-Alloy Sling Chains, including helpful information on their care, use and inspection.

● Sold in running lengths, slings assembled to customers' specifications and other special assemblies.

RUGGED • DURABLE CM® CHAIN

COLUMBUS McKINNON CHAIN DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
NEW YORK • CHICAGO • CLEVELAND
SAN FRANCISCO
In Canada: Columbus McKinnon Limited, St. Catharines, Ontario

HERC-ALLOY®

For more details circle NED-82 C1 on enclosed inquiry slip

Easy portable finishing

ANOTHER NORTON PRODUCT

with **KONTOOR Bands**

Guard removed for photo

Unique Behr-Manning construction lets KONTOOR abrasive bands run under lower air pressure; chatter is reduced; crowned wheel and band ideal for curves, internal surfaces, narrow areas; no edge-cutting problem; require less storage space. Ask for a demonstration. Write Dept. NE-3, BEHR-MANNING CO., Troy, N. Y., a division of Norton Company.

BEAR Abrasives

For more details circle NED-83 C1 on enclosed inquiry slip

NO OTHER TOOL MOVES METAL FASTER, CHEAPER

Arcair process for metal removal

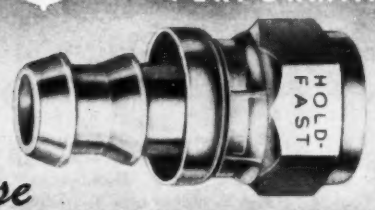
You won't believe it until you see it! Arcair Torch cuts, gouges, grooves, bevels or flushes off more metal . . . any metal . . . in less time for less money. Gives you cleaner, better jobs, yet is inexpensive to install and operate, easy to use. Arcair works with any standard arc welding machine on ordinary shop air. Your men learn to use it in 15 minutes.

Ask for a demonstration soon or write for complete information.

Arcair®
449 S. Mt. Pleasant Street
Lancaster, Ohio

▲ For more details circle **NED-84 C1** on enclosed inquiry slip ▲

ANCHOR® .....THE PLEDGE OF PERFORMANCE



Use **HOLD-FAST**

LOW PRESSURE, REUSABLE COUPLINGS for Styles "PR" and "PQ" Hose

These easily applied, hard gripping, low pressure couplings make better, faster, surer connections for hundreds of low pressure applications in the industrial and construction fields.

Put a few drops of oil in the hose, push it over the stem until it seats inside the protective cap and—presto—you have a blow-off proof connection that will withstand pressures to 250 psi!

Anchor Hold-Fast Low Pressure, Reusable Couplings can save you time and money! Catalog 303 gives complete specifications—write for it.

Andy Anchor says: "Your Anchor representative is a qualified specialist who can help with your hydraulic plumbing problems."

ANCHOR Coupling Co. Inc.
304 North Fourth St., Libertyville, Ill.
Branch Plants: Dallas, Texas; Plymouth, Mich.

▲ For more details circle **NED-85 C1** on enclosed inquiry slip ▲

FREE MARKAL PAINTSTIK!

We will send you without cost or obligation a MARKAL PAINTSTIK. They are available in various types suitable for marking on any kind of material. Hot surfaces up to 2100°F, also welding and heat treating. Cold surfaces down to —50°F, wet, dry, icy, oily, rough, smooth, acid or alkali. ***MARKS Are Permanent, Fadeproof, Weatherproof.*** Specify surface condition, material, temperature at time of marking.

Cold . . . down to —50°F. Hot . . . up to 2100°F.

USE THIS COUPON OR WRITE ON YOUR LETTERHEAD!

Here's what I want to mark: _____

Marking Temperature _____ Max. Temp. _____ °F.

Name _____

Company _____

Address _____

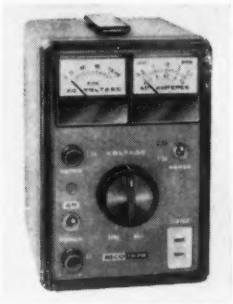
City _____ Zone _____ State _____

My Distributor's Name _____

MARKAL COMPANY
3053 West Carroll Avenue • Chicago 12, Illinois

▲ For more details circle **NED-86 C1** on enclosed inquiry slip ▲

ELECTRIC SUPPLY UNITS
current ratings of 3 and 7½ amp



Kit and wired forms of variable alternating current bench supply units are capable of delivering 0 to 140 v ac from a 120-v ac power line. Identical except for current rating and ammeter range, 3-amp Model 1073 has ammeter ranges of 0-1 and 0-3 amps, while 7½-amp Model 1078 has 0-2½ and 0-7½ amp ranges. Both units have variable autotransformers, rotary brush-taps controlled by a front dial, separate output voltmeters, and dual-range ammeters. Switching from one range to the other under load is possible. Model 1073 is priced at $35.95 for the kit and $47.95 wired. Model 1078 is $42.95 and $54.95 in kit and wired forms, respectively. • **Electronic Instrument Co.,** 33-00 Northern Blvd., Long Island City 1, N. Y.

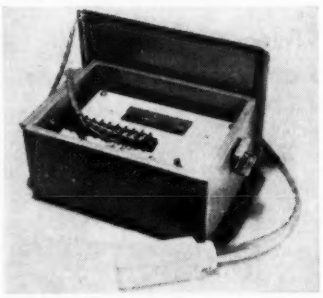
▲ For more details circle **NED-87 C1** on enclosed inquiry slip ▲

FOOT-ACTUATED SWITCH
handles loads up to 20 amp

Available with either maintained or momentary contacts, CM footswitches are dustproof and durable. Contact ratings from 6 to 20 amp are available from stock. Price is $7.95 each, or less in quantities. • **Vemaline Products Co.,** 511 Commerce St., Franklin Lakes, N. J.

▲ For more details circle **NED-88 C1** on enclosed inquiry slip ▲

PROXIMITY LIMIT SWITCH
senses ferrous, nonferrous metals



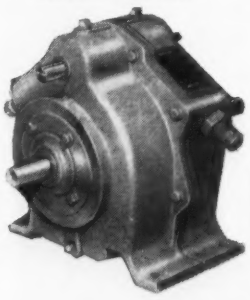
Actuation by high speed and/or delicate materials and design which allows submersion in fluids or in contaminated areas are features of this sensitive, long life proximity limit switch. It can also be actuated by rough surfaces without wear and will sense through nonconductive, nonmagnetic, and some high resistance metals. The 1⅛ x 1⅛ x 4¼-in. pickup, highly sensitive to both ferrous and nonferrous metals, is unaffected by dirt, moisture, or oil, and will not attract metal chips. Objects moving within 1 in. are sensed by the pickup, and voltage developed is used to operate a relay in the control unit. Prices of standard models which include a transistorized control and pick-up start at $72. • **Electronic Signals, Inc.,** Box 3811, Cleveland 10, Ohio.

▲ For more details circle **NED-89 C1** on enclosed inquiry slip ▲

HOT-SHIFT TRANSMISSIONS

S-N Reversing Transmissions have precision-designed features that meet your requirements for power transmission. Space-saving single units—Smooth and instant reversing under full load—Gives you maximum flexibility of design—Performance-proven—8 HP and 28 HP models available.

MODEL 5201
FORWARD, REVERSE, NEUTRAL, REDUCTION



SPECIFICATIONS	
Reduction Forward	3.16:1
Ratio Reverse	3.16:1
Power up to	28 HP
Max. Input Torque	1000 in. lbs.
Max. Input Speed	2400 RPM
Dimensions Long	11½"
Dimensions Wide	13½"
Dimensions High	14¼"

Write for technical literature:
SNOW-NABSTEDT
The Snow-Nabstedt Gear Corporation
Hamden, Connecticut
TRANSMISSION SPECIALISTS FOR OVER HALF A CENTURY

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NYLON WASHERS

ARE **BETTER** THAN METAL WASHERS

here's why:
LIGHTER IN WEIGHT
MORE RESILIENT
RUST PROOF
SELF LUBRICATING
LONGER WEARING

if you use 50,000 washers a year or more it will pay you to investigate NYLON washers. No matter what size or shape, we can take care of your needs, perhaps right out of stock at attractive prices.

Write for prices TODAY

ROCKFORD MOLDED PRODUCTS, INC.
Dept. A 2230 Kishwaukee Street Rockford, Illinois

▲ For more details circle **NED-91 C1** on enclosed inquiry slip ▲

DI-ACRO ROD PARTER cuts off 3,250 pieces/hr. for Geometric Stamping Co.

Donald Boyd, methods engineer, shows parted stock and the formed part, handle for material handling equipment.

About 1½ million pieces of bar stock are parted off each year on a Di-Acro Power Rod Parter at the Geometric Stamping Co. Div. of Euclid Stamping Co. in Cleveland. Twenty-foot lengths of 5/16" cold drawn steel are cut to 7" pieces at a rate of 3,250 pieces per hour.

"Instead of investing in a single purpose punch press die," says Donald Boyd, methods engineer, "We picked the power parter for its versatility. On this job and a variety of other work the power parter has increased production two times—it's actually twice as fast. Incidentally, there has been little or no maintenance other than periodic lubrication and resharpening of die heads."

For your bar stock up to ⅝" in diameter, investigate the Di-Acro Rod Parter. Speedmatic gauge cuts as fast as operator can feed. Minimum distortion—pieces can be threaded without de-burring. One standard die cuts eleven sizes of rod. Special square, hex and other heads.

DI-ACRO HAND OPERATED ROD PARTER

Same size-range and accurate parting as power parter. Ejectomatic gauge automatically clears die after each cut.

For free booklet, "Handy Guide to Rod Parters," consult yellow pages under Machinery—Machine Tools for your nearest Di-Acro distributor, or write us.

Find Us Fast in The Yellow Pages

pronounced die-ack-ro

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. CO.
783 Eighth Avenue
Lake City, Minnesota

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CUT MAINTENANCE CLEANING COSTS *IN HALF!*

Throw away costly, time consuming brush and bucket methods of plant and machine cleaning! Let the amazing Graco Hydra-Clean make floors, walls and machinery gleam like new in minutes . . . *with half the labor!*

The air-powered Graco Hydra-Clean combines hydraulic pressure with a water soluble detergent to *power* loosen and flush all dirt, grime and scale.

For more details see your nearest Graco distributor or write:

Hydra-Clean "500" for everyday cleaning applications

GRACO ENGINEERS & MANUFACTURERS / **GRAY COMPANY, INC.** 37 Graco Square Minneapolis 13, Minnesota

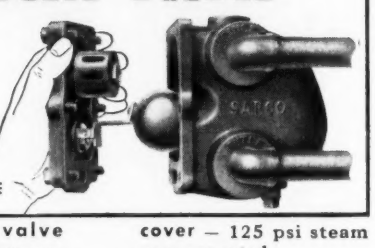
See Phone Book Yellow Pages "Spraying" for Graco Suppliers

▲ For more details circle **NED-93 C1** on enclosed inquiry slip ▲

NEW-IMPROVED STEAM TRAP

Float-Thermostatic Type FT

SIMPLER
MORE DURABLE
EASIER MAINTENANCE



1. **Stainless steel valve mechanism** — valve arm, bracket, hardened seat, ball head.
2. **Ball bearing valve head** — stainless steel. Accuracy and hardness insure tight shut-off, long life.
3. **Heavy-wall copper float** — reinforced at lever connection, copper-plated.
4. **Thermostatic bellows** — to insure long life, it's made of special copper alloy, drawn and corrugated by exclusive process in Sarco's plant.
5. **Semi-steel body and cover** — 125 psi steam pressure rated.
6. **Side inlet and outlet** — pipe can be connected vertically, horizontally, or at right angles.
7. **Easy access** — to all working parts. Entire trap mechanism attached to easily removable cover; accessible without disturbing connections.

Sizes — ¾" and 1"
Working Pressures—up to 125 psi

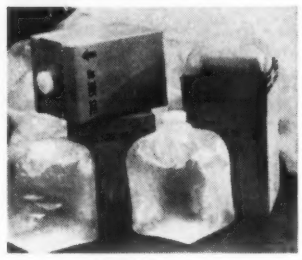
Write for Bulletin 455-B to Sarco Company, Inc., 635 Madison Avenue, New York 22, N. Y.

4178

SARCO SARCO COMPANY, INC. 635-MADISON AVE., NEW YORK 22, N. Y. PLANT: BETHLEHEM, PA

▲ For more details circle **NED-94 C1** on enclosed inquiry slip ▲

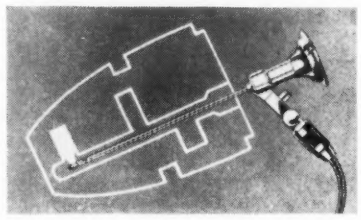
POLYETHYLENE JUGS
5-gal collapsible type



Virtually all kinds of liquids, from viscous sirups to thin engraving fluids and from acids to milk, can be transported and stored in Flex-O-Boy collapsible polyethylene jugs. Blow molded from U.S.I. Petrothene 301 polyethylene resin, this 5-gal container will hold industrial liquids traditionally carried in 5-gal metal pails and 13-gal glass carboys. Unassembled jugs take about one-third the storage space needed for metal containers. • **Associated Plastics, Inc.**, 1510 University Rd., Cleveland 13, Ohio.

▲ For more details circle **NED-96 C1** on enclosed inquiry slip ▲

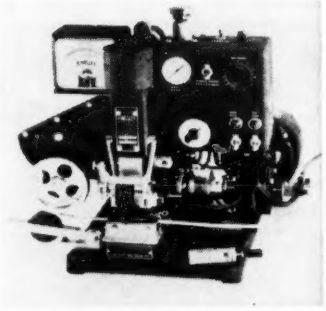
MINIATURE BORESCOPE
has 0.145-in. shaft diameter



Very small bores can be completely inspected by this miniature borescope. Right-angle vision through a high optical efficiency lens system produces a clear, corrected, and sharply defined magnified image. Instrument has a shaft length of 4 11/16 in. and a shaft diameter of 0.145 in. Power is supplied from a battery handle or transformer. • **Welch Allyn, Inc.**, 160 Jordan Rd., Skaneateles Falls, N. Y.

▲ For more details circle **NED-97 C1** on enclosed inquiry slip ▲

TEFLON WIRE & TUBE MARKER
incorporates indicating pyrometer



An electronic dwell timer which is adjustable in 1/10-sec increments enables the Model KW-7 marking machine to be set for the exact heat requirements of high temperature wire and tube. A timer by-pass switch facilitates machine operation, with or without the electronic timer. The air-operated marker has a dial type indicating pyrometer, calibrated to 500° F and to 260° C. A lightweight pulling wheel with neoprene O-rings minimizes torque loads on moving parts and assures proper spacing. Air pressure can be adjusted to vary marking depth. Using a special marking foil, the machine handles Teflon and other plastic coated wires and tubing at a rate of over 170 stampings per minute. • **Kingsley Machine Co.**, 850 Cahuenga Blvd., Hollywood 38, Calif.

▲ For more details circle **NED-98 C1** on enclosed inquiry slip ▲

▲ For more details circle **NED-99 C1** on enclosed inquiry slip ▲

University surveys indicate:

STARTING SALARIES OF ENGINEERS ARE DECEPTIVELY HIGH

By James M. Jenks

TWO SEPARATE STUDIES of the salaries made by college graduates appear to contradict the commonly held belief that engineers today make out better financially than their classmates who major in non-technical subjects.

Both surveys were conducted by large universities. The first polled graduate engineers; the second, company executives. And both resulted in identical findings! That is, the average engineer today—despite a deceptively high starting salary—climbs fast but not far.

The need for technically trained men has exceeded the supply to such an extent that companies have been forced to bid for their services—to actually set-up "recruiting" offices on college campuses all over the country. Thus, starting salaries have gone up and up. But the income ceiling for these men is lower than that for managerial personnel.

Despite the substantial head start engineers have, the differential in money earned over a ten-year period averages out at $7,000 more for the management man.

And from the tenth year on, the administrator's salary outstrips that of the engineer by a wider and wider margin.

This is not to advise engineering students to shift to the study of business administration—or to imply that working engineers face a bleak future. Quite to the contrary, the continuing growth of technology means that technical men are ideally qualified for the highest rewards industry has to offer—*if they also have a knowledge of the underlying principles of business.*

FREE . . . "FORGING AHEAD IN BUSINESS"

If you want to avoid the thorny barriers to success—if you're determined to move up fast—send today for the Institute's 48-page descriptive booklet, "Forging Ahead in Business."

It explains what a man must know today to make $15,000 or more a year . . . what he must do to accumulate this knowledge. It tells why men of equal ability fare so differently in the race for better jobs and bigger salaries. It analyzes the causes of failure . . . the reasons for success. And it outlines an executive-training program which is so complete and so scientific that each day subscribers are brought a little closer to a mastery of business procedures.

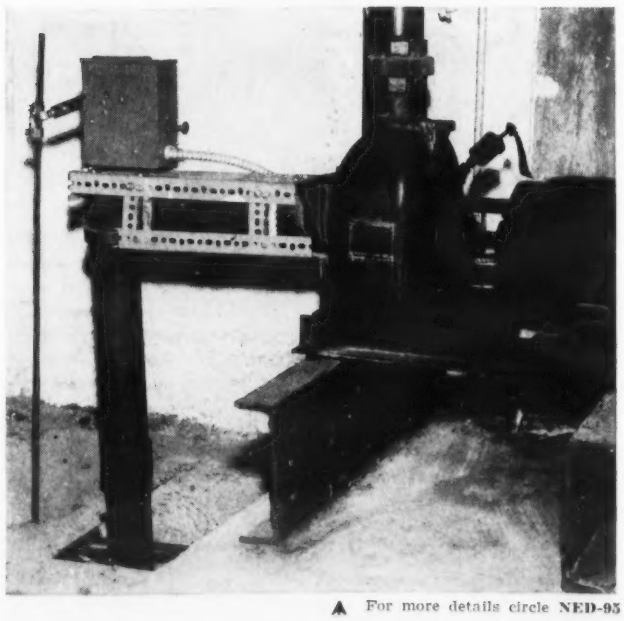
There's no charge for "Forging Ahead in Business." And no obligation . . . other than the obligation to read it thoughtfully, and decide for yourself whether the training it describes is meant for you. To obtain your complimentary copy, simply fill out and return the coupon. It will be mailed to you promptly.

ALEXANDER HAMILTON INSTITUTE
Dept. 294, 71 West 23rd Street, New York 10, New York
In Canada: 57 Bloor St., W., Toronto, Ontario
Please mail me, without cost or obligation, your 48-page book, "Forging Ahead in Business."

Name .....
Firm Name .....
Business Address .....
Position .....
Home Address .....

▲ For more details circle **NED-100 C1** on enclosed inquiry slip ▲

DEPENDABLE GORMAN-RUPP PUMP PROTECTS VITAL CONTROL EQUIPMENT



THIS SUMP PUMP IS GOOD INSURANCE! Heavy rains formerly flooded this area in a Philadelphia establishment, causing heavy damage to automatic electrical control equipment essential to the operation of the business.

Any drainage water now collects first in the sump from which this Gorman-Rupp pump (Model 83B2-E3) takes its suction. The pump is a self-priming centrifugal, with automatic float control. It is rugged and simple in design, has only one moving part, requires little or no maintenance . . . the most reliable unit you can put on a responsible job.

The Gorman-Rupp line includes pumps used the world over for handling water, slurries, gasoline and oil, etc. Types and sizes to meet your requirements, either as plant equipment or in your product assemblies. *Call our Distributor near you, or write us direct.*

THE GORMAN-RUPP COMPANY
305 Bowman Street **Mansfield, Ohio**
Gorman-Rupp of Canada Ltd., St. Thomas, Ontario

▲ For more details circle **NED-95 C1** on enclosed inquiry slip ▲

BREAK THE 'PROFIT SQUEEZE'
with
Brightboy RUBBER-CUSHIONED ABRASIVES

Use these NEW SLANTS to:

★ Save your time
★ Cut your costs
★ Improve your product quality

In multi-use Brightboy, abrasive and rubber function simultaneously to produce a finish that often constitutes the final polish.

BURRING • FINISHING
CLEANING • POLISHING
frequently in one operation

The revolutionary new concept of abrasive applications for working all metals, wood, glass, laminated materials, some plastics. JOB-MATCHED STOCK TEXTURES, extra fine to extra coarse, in soft, semi-firm, firm and tough rubber binders. *The only complete, comprehensive stock line of soft rubber bonded abrasives.*

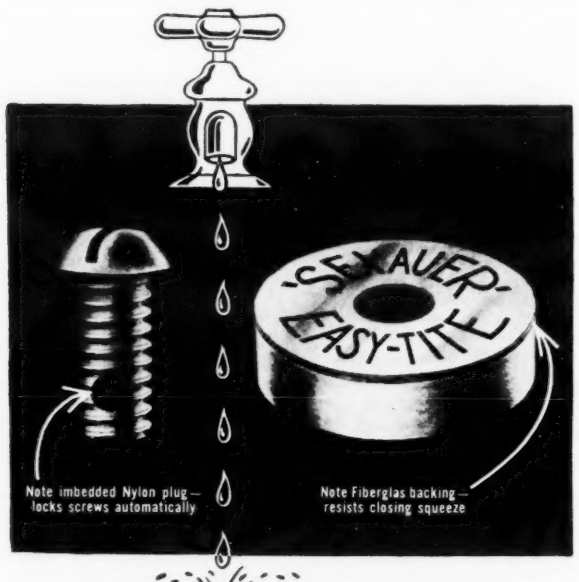
WRITE FOR THIS ILLUMINATING OUTLINE OF NEW & ADDITIONAL APPLICATIONS FOR ABRASIVES

THE NEW BRIGHTBOY CATALOG
• Methods and applications • Machine speeds • Job-matched stock grains & textures • New, revised wheel sizes.

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th St., Newark 7, N. J.
America's Pioneer Manufacturer of Rubber Bonded Abrasives

▲ For more details circle **NED-101 C1** on enclosed inquiry slip ▲



New Way to Stop Faucet Leaks!

★ **9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!**

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ **New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.**

★ **NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.**

★ **Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!**

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

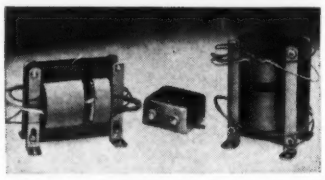
A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-31
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title _____
Organization _____
Bus. Address _____
City _____ Zone _____ State _____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle **NED-102 C1** on enclosed inquiry slip ▲

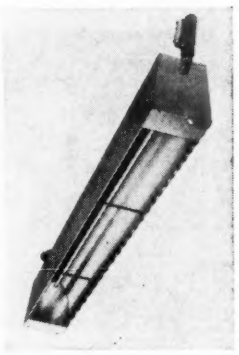
CONSTANT VOLTAGE TRANSFORMERS
maintain output within 1 per cent



Output voltages are maintained within 1 per cent by line of static-magnetic voltage regulating transformers despite input voltage fluctuations up to 15 per cent. Regulation is instantaneous, continuous, and automatic. Design permits almost any output voltage/current combination. Units are offered in horizontal or vertical-mounting open style cases with outputs of 15, 30, and 50 va. Single or multiple secondary windings, with or without centertaps, can be furnished. • **Neshaminy Transformer Corp.**, Neshaminy, Pa.

▲ For more details circle **NED-103 C1** on enclosed inquiry slip ▲

INFRARED COMFORT HEATERS
deep housing controls heat pattern



Deep housing shells of these Chromalox Controlled Beam infrared comfort heaters contain and control the heating effect in a definite radiation pattern. Units have quartz tube or lamp elements and are adapted for high, out-of-the-way mounting over work areas. Choice of heating elements allows customizing the heaters to various conditions. Eleven models range from 8 to 54 11/16 in. long. • **Edwin L. Wiegand Co.**, 7500 Thomas Blvd., Pittsburgh 8, Pa.

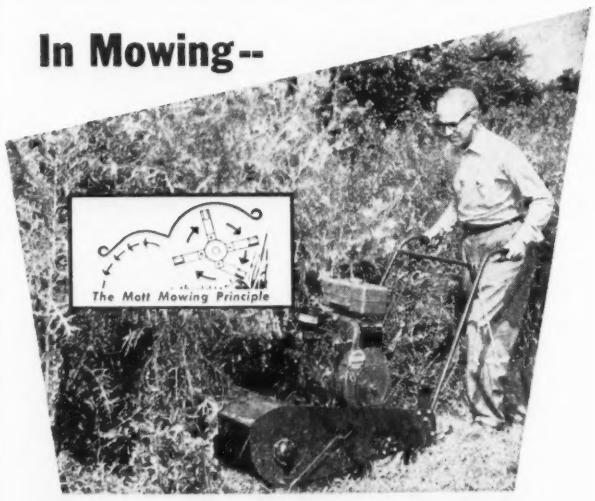
▲ For more details circle **NED-104 C1** on enclosed inquiry slip ▲

VERNIER SCALE ATTACHMENT
aids machine table positioning

Positioning and relocating points on milling machines, lathes, and similar equipment to within ±0.002 in. is facilitated with the Evertrue vernier scale attachment. It is available for table lengths from 1 to 15 ft and is adaptable for one, two, or three-axis operations. A complete set consists of longitudinal and crossfeed engraved scales with rotating verniers and necessary mounting brackets. Prices start at $220 for table length of 42 in. and table travels of 22 x 10 in. • **Edgcomb Engineering & Engraving Co.**, 1105 N. Hollywood Way, Burbank, Calif.

▲ For more details circle **NED-105 C1** on enclosed inquiry slip ▲

In Mowing--



IT'S THE BLADE THAT COUNTS!

The MOTT Hammer-Knife mower — the safest . . . the most versatile mower available! Equally efficient in shredding "man-sized" weeds or grooming velvety smooth lawns. The flail-type cutting principle of the MOTT shreds and deposits the clippings evenly on the ground behind the mower. No danger of flying sticks, stones, or other debris. The patented blade cutting angle provides full swath, self-cleaning and repeated sharpenings. Replaced economically, too!

mott® HAMMER KNIFE®

You can mow with MOTT . . . where others cannot
Details on request.

MOTT CORPORATION
500 Shawmut Ave., La Grange, Ill.
Address mail to: P. O. Box 278-19, La Grange, Ill.

▲ For more details circle **NED-106 C1** on enclosed inquiry slip ▲

HARGRAVE
Industrial Quality Tools

"C" Clamps 1" to 18" Openings 1" to 16" Depths

Bar Clamps
2' to 12' Opening

Spring Clamps—3 Sizes
Clamping Pressure 4 lbs. to 80 lbs.

FREE GENERAL CATALOG
Showing the complete line of HARGRAVE Clamps, Chisels, Punches, Masonry Drills, Gasket Cutters.
HARGRAVE PRO-TECTO-HED CHISELS & PUNCHES
Prevents Mushrooming

for Greater Safety — *for Longer Life*

HARGRAVE
Masonry Drills for Hand, Power Hammers, Electric Drills 3/16" to 6" Dia.

THE CINCINNATI TOOL CO.
1995 Waverly Ave., Cincinnati 12, O.
STOCKED BY YOUR LOCAL SUPPLIER

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LIFTS-LOWERS-PULLS
The 'CADILLAC' WINCH HOIST

CHECK THESE FEATURES

Light Weight Aluminum Castings
Stainless steel shafts and springs
Drop forged steel HOIST hooks
Safety reversible handle engineered to bend when overloaded
Double interlocking pawls

NEW IMPROVED CABLE GUIDE

Equipped with 20' cable
Winding wheel for slack cable
Light weight: 7½ lbs to 13 lbs.
Capacity: 1000 lbs to 4000 lbs.
Full year guarantee against defective workmanship and materials
DYNAMOMETER LOAD TESTED AT FACTORY. Engineered for 50% overload

Model 202WN Pat. No. 2,738,954 Pat. No. 2,927,771 **ALUMINUM PRODUCTS, INC.** 699 S.W. 2nd Ave. Est. 1943 Ft. Lauderdale, Fla.

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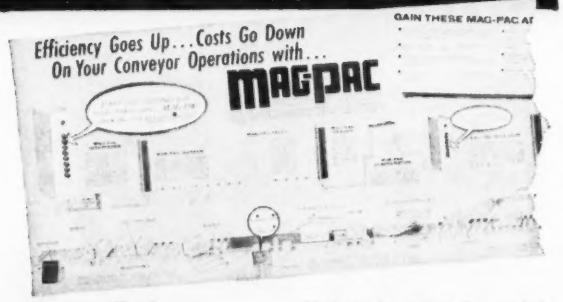
Looking for AUTOMATIC Conveyor System Control!



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MAGPAC® MAGNETIC CONVEYOR CONTROLS
Brochure
*Trademark

Find out how simple, modular MAG-PAC control units can give you any degree of automation you desire for directing movement of packages, parts, units or containers on your plant or warehouse conveyor lines. Low cost . . . highly flexible . . . a big boost in efficiency.

Write today for your Personal copy

FLO-TRONICS, INC.
electronic controls division
712 west ontario avenue
minneapolis 3, minnesota

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How to select

WORM GEAR Drives

FREE TO DESIGN ENGINEERS

NEW Bulletin 218

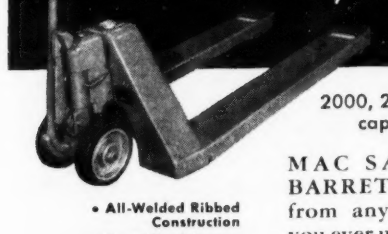
Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle NED-110 C1 on enclosed inquiry slip

NOW BARRETT Model HX PALLET TRUCK

X-TRA LIGHT
X-TRA STRONG
X-TRA VALUE!



2000, 2500 and 3000 lb. capacity 4½" lift

- All-Welded Ribbed Construction
- Short Wheel Base—Maneuverable
- Simplified Hydraulic Unit
- "Flying Saucer" Pallet Entry
- Overload Protection
- Adjustable Lowering Control

MAC SAYS, "This new BARRETT HX is different from any hand pallet truck you ever used. It's loaded with features never before available in a truck of this type. And priced surprisingly low! Get the money-saving facts. Write for Bulletin 5511—*today!*"

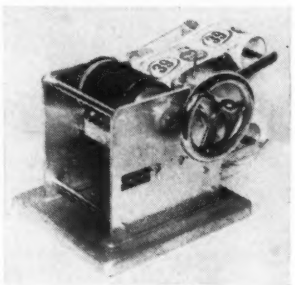
BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Ill.
Representatives in All Principal Cities. Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada.

BARRETT

One man does more than 3 or 4—with a Barrett

For more details circle NED-111 C1 on enclosed inquiry slip

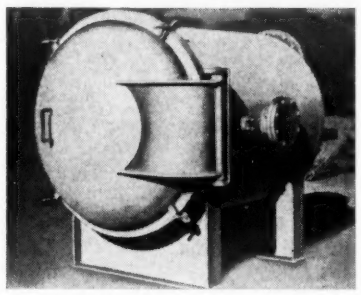
LABEL MAKING MACHINE
produces 1 x 1 to 5 x 15-in. sizes



Labels, sales messages, signs, bumper stickers, and other similar products are printed by the Model 6056-H label maker. The heavy duty hand-operated machine makes from 1 x 1-in. up to 5 x 15-in. sizes without adjustment. A combination printing and straight die cutting machine, it uses any type of stock label paper. Colors and printing plates are quickly changed. Production rate is about 2000 per hour. Model 6056-HM is electrically driven. • **Sohn Mfg., Inc.**, Box X, Elkhart Lake, Wis.

For more details circle NED-113 C1 on enclosed inquiry slip

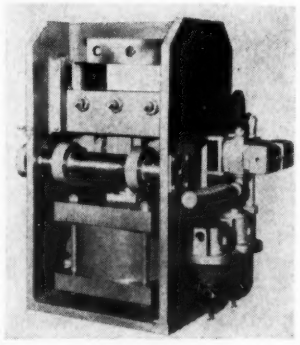
VACUUM CHAMBERS
in diameters to 12 ft, 20 ft long



Two models of this Spacemaster line of vacuum chambers include standard type for altitude simulation to 250,000 ft or about 10 microns, and the high vacuum series with a stainless steel vessel for vacuum levels to 10^{-7} mm Hg. Diameters range from 1½ to 12 ft, with standard lengths up to 20 ft. They are delivered complete with mechanical or high vacuum pumping assemblies, or for use with customer's pumping systems. • **Bethlehem Foundry & Machine Co.**, Environmental Engineering Div., 225 W. Second St., Bethlehem, Pa.

For more details circle NED-114 C1 on enclosed inquiry slip

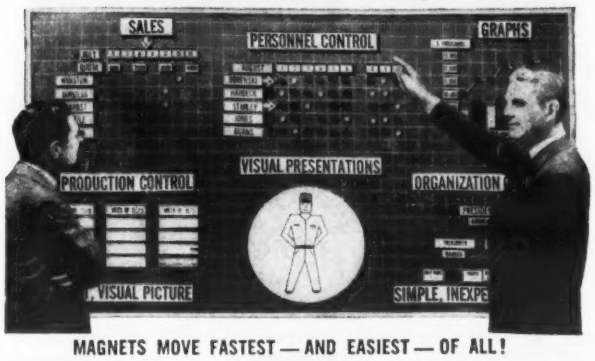
COILED-STEEL SHEARS
cut up to 3/16x96-in. mild steel



Made in widths from 24 to 84 in., Type CU-12-12 shears are used to crop off the ends of coils, cut out rejected parts of coils, or cut to length. Units for hydraulic or compressed air operation can be furnished in capacities for cutting up to 3/16 x 96-in. mild steel. They occupy a minimum of space in steel processing or coil build-up lines. • **Curry Air Shear Corp.**, 1 Gateway Center, Pittsburgh 22, Pa.

For more details circle NED-115 C1 on enclosed inquiry slip

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE3 FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

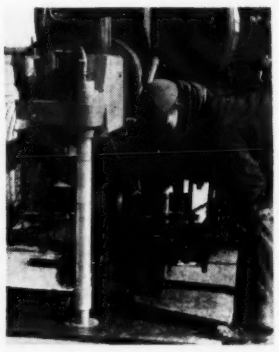
Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

For more details circle NED-117 C1 on enclosed inquiry slip

TRUCO® DOES IT AGAIN!

80% cost reduction in airport runway lighting by installation of pancake lights

Cutting slot raceways for wiring.



Drilling holes for light units.

Truco "pancake" diamond drill on Truco Model G, gasoline powered, truck-mounted drill rig cut holes for light units 6" dia. x 1" deep. Truco Concrete Saw with 14" Truco diamond blades sawed miles of slots for wiring raceways in both bituminous and portland cement concrete runways. Even greater savings now possible using new Tru-Vac® Vacuum Pad to anchor drill rig in seconds. Write for our new Catalog.

TRUCO MASONRY DRILLING DIVISION
WHEEL TRUEING TOOL COMPANY
178-3200 W. Davison, Detroit 38, Mich. • 575 Langlois, Windsor, Ont.

For more details circle NED-118 C1 on enclosed inquiry slip

KENNETT TRUCKS

MADE TO ORDER • LAST LONGER

Vulcanized Fibre is the light-weight, high strength plastic that gives Kennett trucks the ability to "take it." Regular or heavy duty models designed to meet every materials handling need.

FREE BOOKLET ON TRUCKS! For full data on this versatile truck line write Department K-3, Wilmington 99, Delaware.

NVF
KENNETT DIVISION
NATIONAL VULCANIZED FIBRE COMPANY

For more details circle NED-112 C1 on enclosed inquiry slip

KENNETT TRAYS

LIGHT OR HEAVY DUTY • NEST NEATLY

Modified from a standard line to fit your specific needs . . . smooth, grease-resistant Kennett Trays are available in a wide variety of styles, weights and sizes . . . even new Pyronil fire-resistant Vulcanized Fibre.

FREE BOOKLET ON TRAYS! Choose just the right tray for your job from a broad line of tray equipment. Write Dept. K-3, Wilmington 99, Delaware.

NVF
KENNETT DIVISION
NATIONAL VULCANIZED FIBRE COMPANY

For more details circle NED-116 C1 on enclosed inquiry slip

KENNETT MILL BOXES

WORK HARDER • LAST LONGER

. . . ideal for any parts handling job in your plant, from small fragile components to larger raw-edge castings. Smooth, oil-resistant Kennett equipment has the strength to take it, the resilience to protect it.

FREE BOOKLET ON MILL BOXES! For full information on this hard-working tote-box line, write Dept. K-3, Wilmington 99, Delaware.

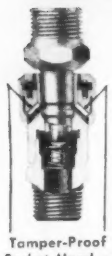
NVF
KENNETT DIVISION
NATIONAL VULCANIZED FIBRE COMPANY

For more details circle NED-119 C1 on enclosed inquiry slip

Thoroughly Proved...
BY YEARS OF HARD EVERYDAY USE
IN THOUSANDS OF PLANTS

HANSEN
QUICK-CONNECTIVE
PUSH-TITE COUPLINGS

ONE-WAY SHUT-OFF



Tamper-Proof Socket Head — with leak-proof, minimum wear, locking device.

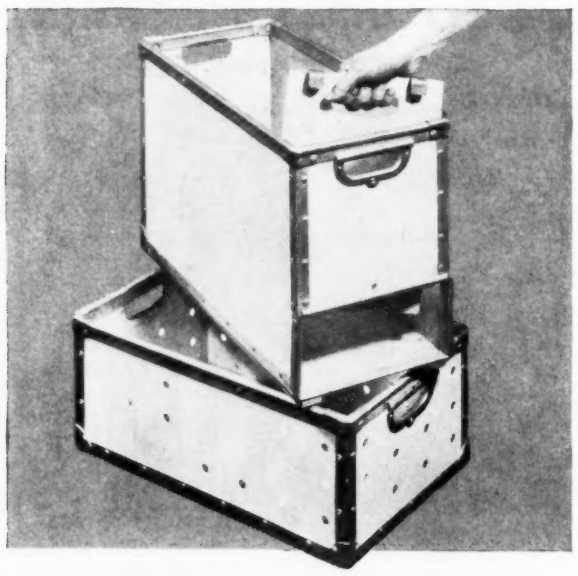
- Quick connection and disconnection – as easy as plugging in your electric shaver.
- Instant automatic flow or shut-off.
- Factory assembled socket head cannot be readily damaged—or have component parts lost by casual tampering.
- Locking pins afford large area contact with Plug – reduces wear to a minimum.

Write for Catalog – a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities ...See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-120 C1 on enclosed inquiry slip



1 BOX or 1,000

TAILOR-MADE TO YOUR SPECS BY TOTELINE

You can handle, ship or store just about anything with Fabri-Totes . . . a new line of custom-made Toteline boxes from Molded Fiber Glass Tray Co. They're made to your specifications in the quantity you want—1 or 1,000.

These durable, economical containers—available with solid or perforated panels of molded fiber glass, aluminum or vulcanized fiber, riveted together with galvanized steel hardware—are designed to meet your specific materials handling requirements. Best of all, no minimum order is necessary.

This Fabri-Tote Repack Box is ideal for use in warehouses, stores or shops where covered storage containers are required. Its locking hasp assures protection for contents in over-the-road shipments. The Repack Box will nest when empty and stack when loaded.

Fabri-Tote Linen Trucks speed housekeeping and reduce maintenance and replacement costs. The Linen Truck comes equipped with four casters, two of which swivel for easy handling of heavy or bulky loads. Like all Fabri-Totes, the Linen Truck can be fabricated to meet your specifications and needs.

The Fabri-Tote General Purpose Box is a versatile, money-saving piece of equipment used in machine shops, stores, parts departments or wherever a rugged material handling container is needed.

Fabri-Totes can be equipped with hardwood runners, lids, hand holds. They can be designed either to nest or stack.

by TOTELINE

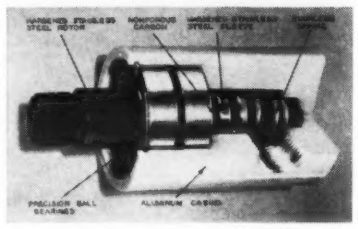
MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.
A DIVISION OF THE MOLDED FIBER GLASS BODY CO.

Please send me further information on Toteline Fabri-Totes

Name _____ Title _____
Company _____
Address _____
MF-18-NED

For more details circle NED-121 C1 on enclosed inquiry slip

REVOLVING JOINT
for air or hydraulic use

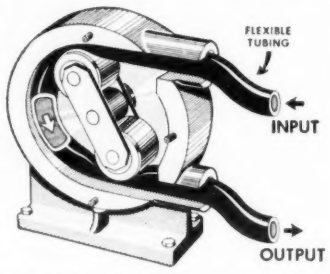


Rotating on two precision ball bearings, this revolving joint is capable of handling 500-psi air or hydraulic pressure with a minimum of turning torque at speeds to 1500 rpm. The hardened stainless steel rotor aligns itself to a nonporous carbon seat. The stainless steel sleeve has a Buna-N O-ring stationary seal. Entire assembly is seated by a stainless steel spring. Joint casting is aluminum. • **Rotherm Engineering Co.**, 7280 W. Devon Ave., Chicago 31, Ill.

For more details circle NED-122 C1 on enclosed inquiry slip

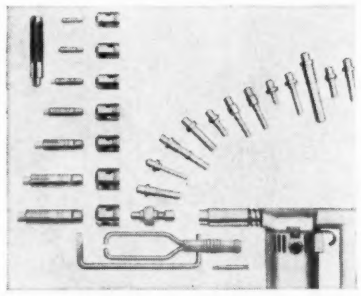
FLUID & GAS PUMP
intake, outlet are one flexible tube

By selecting a tubing material suitable to the liquid being handled, this pump will handle various corrosive, sterile, and abrasive liquids or gases without contamination or injury to the mechanism. Its intake and outlet are one continuous flexible tube which passes through the pump body. Squeegee action of ball bearing rollers on the tube produces the even pumping action. Two sizes have capacities of 54 and 185 gph when operated at their maximum speed of 575 rpm. Pump is offered with or without a ¼-hp motor, speed controls, and explosionproof fittings. Prices range from $68.50. • **Randolph Co.**, 1018 Rosine St., Houston 19, Tex.



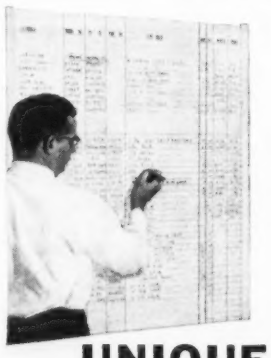
For more details circle NED-123 C1 on enclosed inquiry slip

CONCRETE ANCHORING KIT
chucks install self-drilling fasteners



A complete set of chuck shanks adapts every make of impact hammer for installing all sizes of Red Head self-drilling concrete anchors. An important component of the Interchangeable System is a new holder - driver for hand installation of anchors where an air or electric hammer is inconvenient or unavailable. • **Phillips Drill Co.**, U. S. 12 & Liberty Trail, Michigan City, Ind.

For more details circle NED-124 C1 on enclosed inquiry slip



Notes grease penciled on the extruded clear plastic Memo Strips*.

Desired columns laid out using adhesive striping tape.

Column title headings made up using adhesive letters.

Memo Strips* slide up and down, snap in and out for easy arrangement.

UNIQUE VISUAL CONTROL

MEMO FLEX,* the new visual control/scheduling board that is easy to use, flexible and low in cost.

Tells you at a glance where things stand, where trouble may be developing. A visual picture of concise details, a constant spur to action. Easily kept active and accurate, it saves time and trouble wherever simple, effective visual control is needed.

Every unit comes complete with all the elements for the user to create his own custom layout. Only $49.50 F.O.B. Plant. Literature on request.

Memo Flex* DIVISION
515 Bannock Street, Dayton 4, Ohio
National Distributor QuesTronics Division, Chicago 6, Ill.
*TRADE MARKS OF THE GARRISON MACHINE WORKS, INC., PAT'D. PEND.

For more details circle NED-125 C1 on enclosed inquiry slip

Sta-Warm ELECTRICALLY HEATED
RECTANGULAR TANKS

FOR . . . MELTING • DIPPING • CLEANING • DEGREASING

• Custom-built to your specifications. Available in any practical size, shape, voltage or temperature range you require. Famous "Sta-Warm Method" uniformly heats sidewalls and bottom to insure proper temperature control of difficult-to-handle compounds. Engineered to close temperature tolerances.

WANT A CATALOG? WRITE TODAY.

VR44W TWO-COMPARTMENT DIPPING TANK-44-gallon capacity with heated gate valve drain.

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

For more details circle NED-126 C1 on enclosed inquiry slip

How to stop rubber marks

MULTI-CLEAN *Super Floor Dressing* tends to reduce and prevent marks and leave a surface highly resistant to future marking.

This outstanding new mop treatment polishes and preserves while it cleans. Makes wax last longer, floors more anti-slip. Excellent coverage.

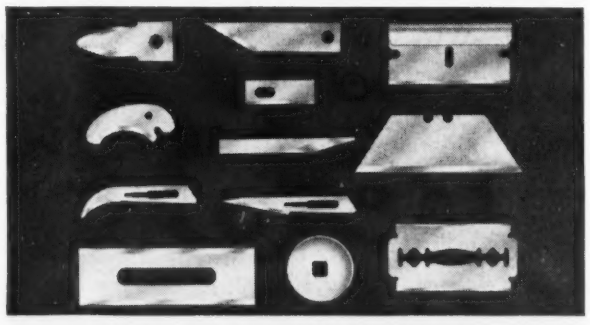
Light-colored *Super Floor Dressing* has pleasing aroma, creates no fire hazard. Mops are easily laundered. Available with germicide which destroys many bacteria on contact, prevents mop head odors.

Call your local MULTI-CLEAN Distributor or write...

MULTI-CLEAN Method

MULTI-CLEAN PRODUCTS, INC.
Department NE-40-31
St. Paul 16, Minnesota

For more details circle NED-127 C1 on enclosed inquiry slip



WHY RE-SHARPEN?

CRESCENT disposable knife blades are custom engineered to your specifications — made of Swedish surgical steels in any length required, width to 2¼ inches and thickness to 0.050-in.

CRESCENT disposable knife blades with razor-honed edges eliminate the cost of re-sharpening dull knives — give you higher production, more uniform product, greater efficiency, and longer cutting life.

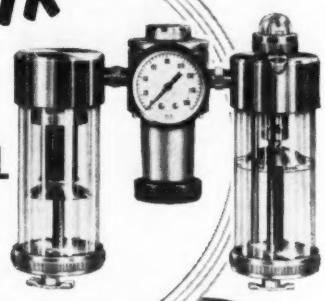
CRESCENT engineers will solve your cutting problems, too. At no obligation, write and specify the type of knives you use, how many, what you cut, and how.

Write to: Engineering Department
CRESCENT MANUFACTURING CO.
Fremont, Ohio

For more details circle NED-128 C1 on enclosed inquiry slip

LUBRI-AIR®

AIR CONTROL UNITS



Write for Bulletin LA-20M Dept. NED-361 Bellows-Valvair Akron 9, Ohio

Automatically filter pressurized air to assure a clean, dry air supply . . . automatically compensate for fluctuations in air pressure . . . automatically compensate for variations in cfm requirements . . . automatically adjust amount of misted lubricant to meet changing cycle rates. ¼" through 1" sizes.

997-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-129 C1 on enclosed inquiry slip

TROPIGLAS
NEW ROOFING MATERIAL

Rot-Proof, Blister-Proof
Age-Proof, Easily Handled

Cuts Repair to Little More than Material Cost

Made of ageless, rot-proof glass fibres, Tropiglas is tough, flexible, durable, light in weight. One man handles any length easily. It lies flat—no waiting. Partially porous, it EMBEDS in Roofkoter (no air pockets to blister, no open wrinkles!) to form a one-layer, weather-tight, longer-lasting surface. Unskilled labor can apply Tropiglas with Cold-Process Roofkoter easily and quickly . . . and repair costs are down to little more than material costs!

PARKER RUST PROOF PRODUCTS

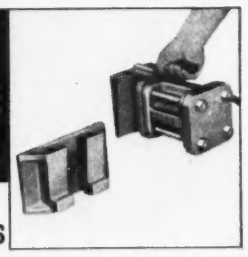
FREE! Write for complete information on money-saving TROPIGLAS roof repair TODAY!

TROPICAL PAINT COMPANY 1124-1252 W. 70th, Cleveland 2, Ohio

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

For more details circle NED-130 C1 on enclosed inquiry slip

CLEVELAND LIGHTWEIGHT PORTABLE VIBRATOR



FAST UNLOADING OF RAILROAD CARS, BINS, TRUCKS

Speed your unloading and handling of bulk materials with a pneumatic vibrator that goes to work where and when you want it. Lightweight, well-balanced Cleveland LSRR Portable Vibrators are ideal for railroad cars, bins, and trucks as well as large and small concrete forms that call for occasional vibration.

One moving part, a piston, delivers 7000 to 8000 vibrations per minute at maximum speed with a minimum air consumption. The all-steel unit has a dovetailed foot which slips into a cast steel bracket for solid fit. Hydraulic Vise Clamp models are also available which can be quickly attached to any structural member of a railroad car, bin, or truck.

Count on Cleveland for proven quality air and electric vibrators, vibrating feeders and tables.

For complete details, write for Catalog #109

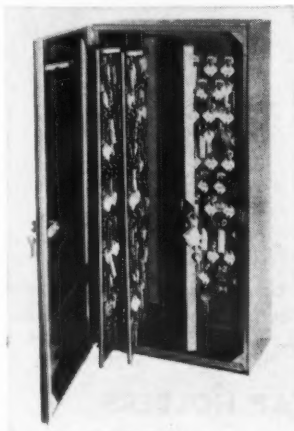
3336CV

Bin Stuck Lately?

THE CLEVELAND VIBRATOR CO.
2744-3A1 Clinton Ave. • Cleveland 13, Ohio

For more details circle NED-131 C1 on enclosed inquiry slip

KEY FILING CABINET
is safe key-control system

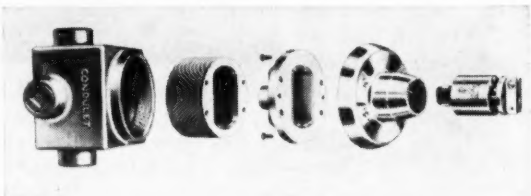


A separate rear compartment with a padlocked door provides space for up to 50 different key changes which require maximum security and which must be kept separate from other keys in this line of Dual Compartment TelKee cabinets. The front of the cabinet has four Swingamatic panels that control up to 400 key changes. All sections are controlled, filed, and indexed by the standard TelKee system. • **P. O. Moore, Inc.,** Glen Riddle, Pa.

For more details circle NED-132 C1 on enclosed inquiry slip

EXPLOSIONPROOF OUTLET AND PLUG
is safe to use in hazardous areas

This Hubbellock explosionproof electrical receptacle and plug prevents arcing when appliances or equipment are connected or disconnected at wall outlets.

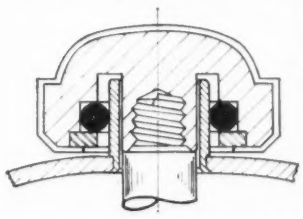


UL-listed and approved by NFPA, they are usable in Class I, Group C and D explosive atmospheres. All possible air spaces where flammable gases or liquids might collect are filled with epoxy insulating resin. Plug cannot loosen by a direct pull. • **Harvey Hubbell, Inc.,** State & Bostwick Streets, Bridgeport 2, Conn.

For more details circle NED-133 C1 on enclosed inquiry slip

SEALED ADJUSTING KNOB
seals 0.080-in. winding tubes

Complete waterproof protection with high rotational freedom is provided by this miniature adjusting knob for sealed potentiometers, thermostat, timers, and other precision instruments. A resilient O-ring molded to close tolerances seals the knob to instrument's winding tube with minimum frictional contact. Knob seals 0.080 to 0.120-in. OD tubes and can be used for either rotation or oscillation. It withstands pressure up to 35 psi and is tested for over 100,000 rotations. • **Joseph Waldman & Sons,** 133 Coit St., Irvington, N. J.



For more details circle NED-134 C1 on enclosed inquiry slip

CLEVELAND ELECTRIC BIN VIBRATOR

SILENT, ADJUSTABLE VIBRATION . . .

Quiet as an electric motor, this electric vibrator delivers adjustable impact that moves materials from stubborn bins, hoppers and chutes. A pair of eccentric weights mounted on both ends of the motor shaft are easily opened or closed for changing vibratory force. Just remove the protective end bell and a bolt. Self-contained with no pulleys, Cleveland electric vibrators deliver low-maintenance, trouble-free service.

The RC electric vibrator line offers a wide choice of vibration impacts ranging up to well over a ton for heavy applications. Models are available in single or three-phase, A.C. current for operation on 110, 220, 440, or 550 volts.

Count on Cleveland for proven quality air and electric vibrators, vibrating feeders and tables.

For complete details, write for Catalog #11

3335-CV

Bin Stuck Lately?

THE CLEVELAND VIBRATOR CO.
2744-3A Clinton Ave. • Cleveland 13, Ohio

For more details circle NED-135 C1 on enclosed inquiry slip

HAMILTON SUPER SENSITIVE Tapping MACHINE

2992

Capacity — 000-120 to 10-24

In the field of small hole, precision tapping the HAMILTON Super Sensitive Tapping MACHINE stands alone. It is smooth, silent, precise, and sturdy. Spindle returns to neutral position and stops rotation instantly and automatically when pressure on the feed lever is released. To learn what this means to you,

write for our free Bulletin No. 2992.

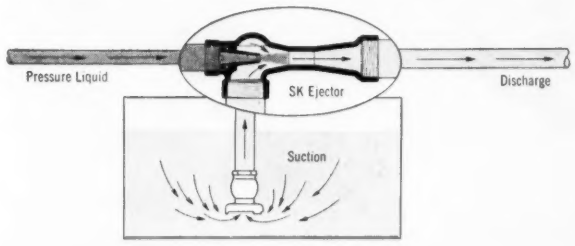
THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

For more details circle NED-136 C1 on enclosed inquiry slip

SK Liquid Jet Ejectors
PUMP AND MIX SIMULTANEOUSLY

SK Liquid Jet Ejectors utilize the kinetic energy of a liquid under pressure to entrain, mix, and pump liquids or handle slurries and granular solids. Uses vary from pumping out a sump to mixing chemicals in proper proportions.

Some user benefits: (1) *economy*—a 2-inch, bronze unit costs only $51.00; (2) *maintenance-free service*—simple construction and lack of moving parts makes supervision unnecessary; (3) *availability*—stocked in popular sizes in Pennsylvania, Texas, California; (4) *adaptability*—made and stocked in cast iron, bronze, stainless steel, asbestos-filled resin, PYREX brand tubing, and PVC.



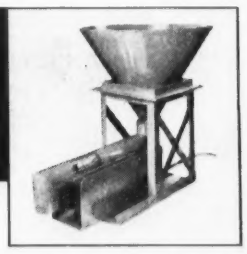
For details—ask for Bulletin 2M

Schutte and Koerting COMPANY
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
Phone: MErcury 9-0900 TWX: Cornwells, Pa., 69-"U"

JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

For more details circle NED-137 C1 on enclosed inquiry slip

CLEVELAND AIR-POWERED FEEDER



CONTROLLED MOVEMENT OF MATERIALS

Accurate, controlled flow of granular materials and small parts is assured with efficient Cleveland air powered vibrating feeders. The vibratory drive has only one moving part, a piston, for low air consumption. No motors, eccentrics, belts, bearings or gears to cause maintenance trouble. No springs to be adjusted. Ideal for hazardous, dusty, or high temperature conditions, Cleveland all-metal vibrating conveyors are designed for fast easy cleaning.

Either open or tubular feeders are available in all lengths and capacities. No special foundation is required to floor mount the feeder. It can also be suspended overhead for low cost installation with existing equipment.

Count on Cleveland for proven quality air and electric vibrators, vibrating feeders and tables.

For complete details, write for Bulletin 1000

3337-CV

Bin Stuck Lately?

THE CLEVELAND VIBRATOR CO.
2744-3A2 Clinton Ave. • Cleveland 13, Ohio

For more details circle NED-138 C1 on enclosed inquiry slip

SKIDS

Bolted – Welded – Bolt & Weld in combination

When you buy Ironbound you get Price, Dependability & Service.

Do you also know about the diversified line of Ironbound units. Here's a partial list of other products all soundly engineered and rugged:

SEMI-LIVE SKIDS & JACKS • FLOOR TRUCKS BOX TRUCKS • SHELF TRUCKS • GARMENT TRUCKS • ROLL TRUCKS • TABLE TRUCKS, DOLLIES • PRY BARS • SPECIALS

Ironbound — **IRONBOUND BOX & LUMBER CO.**
750 Ramsey Ave. • Hillside, N. J. • Telephone: ESsex 3-3233
Representatives in principal cities

For more details circle NED-184 C1 on enclosed inquiry slip

today's most "able" HAND TYPE CLEANER by IDEAL

• VACUUMS • BLOWS • SPRAYS • DRIES*

HEAVY DUTY MODEL. Medium and Light Duty models also available.

Capable . . . Delivers efficient, economical, all-around service — whether you use it as a vacuum, blower, sprayer or drier*. Cast aluminum housing, streamlined and light in weight, makes possible long, continuous use without operator fatigue.

*Heater Nozzle available for Light Duty Model only.

Durable . . . Outlives lesser cleaners because it is ruggedly built to withstand the roughest industrial use. Heavy Duty 1⅓ H.P. motor, air-cooled for extra long life, blows at a velocity of 26,500 feet per minute.

Adaptable . . . Economically converts to Tank Type cleaner in less than a minute.

TANK CONVERSION PACK

Multiply the usefulness of IDEAL'S Heavy and Medium Duty Hand Type Cleaners by converting to a powerful, all-purpose STANDARD Cleaner. Conversion Pack consists of wheel-mounted 12-gallon steel tank and large dust-tight bag.

Sold Through America's Leading Distributors
In Canada: Irving Smith, Ltd., Montreal

IDEAL INDUSTRIES, Inc.
1032-C Park Avenue, Sycamore, Illinois

Please send me full catalog data on IDEAL'S Hand Type Cleaners and Conversion Packs.

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

For more details circle NED-185 C1 on enclosed inquiry slip

3 & 4-WAY AIR VALVE for control of air cylinders

Featuring compact design and full ⅛-in. ports, low cost three and four-way air valves are base mounted and only 1 13/16 in. high. The three-way model is used with single-acting air cylinders, while the four-way model will control double-acting types. All parts are replaceable without disturbing piping. • **Bimba Mfg. Co.**, 101 Main St., Monee, Ill.

For more details circle NED-186 C1 on enclosed inquiry slip

TAP HOLDERS in releasing or nonreleasing types

Incorporating self-feed and adjustable depth control, Tapmatic tap holders are offered in releasing and nonreleasing types. Usable on all machines with reversible spindles, they convert the machines for precision tapping. The self-feed assures gage-perfect threads, even when used for re-entry with finishing taps. The length of pull out for releasing can be varied from 1/16 to ¾ in. by adjustment of the knurled depth control collar. This mechanism, actuated by precision rollers, gives smooth release and is impervious to wear. The major diameter does not exceed the shank diameter. They can thus be accommodated within the tool holder opening of machine turrets. The ⅝, 1, and 1¼-in. diameter holders have tap capacities of No. 0 to 12, 0 to ½ in., and 10 to ⅝ in., respectively. • **Tapmatic Corp.**, 845 W. 16th St., Costa Mesa, Calif.

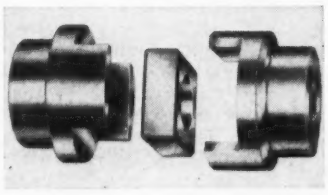
For more details circle NED-187 C1 on enclosed inquiry slip

POWDER-ACTUATED STUD DRIVER plunger "pushes" stud into masonry

Possibility of ricochet is eliminated in the Fixrammer Control-A-Stud powder-actuated stud driver. Power from powder charge is transmitted to a plunger which moves relatively slowly to "push" stud into concrete, steel, cinder blocks, or other masonry surfaces. Stud stops when plunger discontinues its push. If stud has not penetrated to its proper depth, it can be driven home with another charge. Spalling of concrete around the stud is eliminated, and a gas control chamber prevents powder marks. A control system regulates the depth of penetration. Driver can be used in corners and narrow places. • **Sileps, Inc.**, 1501 N. Davidson St., Charlotte 3, N. C.

For more details circle NED-188 C1 on enclosed inquiry slip

FLEXIBLE COUPLINGS center member is self-lubricating



Compensation for several times normal misalignment for short periods without loss of power or strain to the equipment is built into American flexible couplings. Sizes 8, 8½, 9, and 10 have a sintered metal center member, oil-impregnated for lifetime lubrication. It dispenses the oil to bearing surfaces as needed. Two jaw flanges are corrosionproofed semisteel castings. Couplings are bored for a push fit on shafts and have a standard keyway, when specified. Each bore has two set screws. Four sizes have nominal maximum bores of 1½, 1⅜, 1¾, and 2 in.; maximum speeds of 6300, 5300, 5000, and 4160 rpm; and capacity per 100 rpm of 2.2, 4.2, 6.0, and 10.8 hp. Three smaller sizes and 15 larger sizes cover a range from 0.05 to 985 hp per 100 rpm. • **Zurn Industries, Inc.**, Mechanical Power Transmission Div., 1601 Pittsburgh Ave., Erie, Pa.

For more details circle NED-189 C1 on enclosed inquiry slip

David Round **HOISTING EFFICIENCY**

...especially in work areas cramped for headroom

MODEL 55 CABLE TYPE ELECTRIC Hoist and Trolley
Write for Bulletin 119-EH

***Cable-Aire* PNEUMATIC HOIST**
Meets requirements for operation in hazardous atmospheres
Write for Bulletin 300-CA

Order from your Distributor
Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO

For more details circle NED-190 C1 on enclosed inquiry slip

Saves Steps, Saves Time, Saves Money...

TALK-A-PHONE
INTERCOMMUNICATION
The Accepted Symbol of Quality and Dependability

Only the New TALK-A-PHONE has these exclusive features!

- **DYNASONIC SELECTOR.** Select station performance, intermix or change as needed.
- **MULTI-MAGIC STATION SELECTOR.** Up to 50-station capacity in same attractive cabinet.
- **"PRIVATE" or "NON-PRIVATE" MASTERS and STAFFS.** Converse in privacy, answer calls from a distance.
- **NOISE-FREE, VOICE-RANGE POWER.** Rugged, All-Transistor, high-gain amplifier provides exceptional clarity and naturalness of tone.

PLUS . . . Incoming Call Chime; Busy Signal; Monitoring Signal; External Relay Control; Reciprocal Power Supply . . . all as standard features of the New TALK-A-PHONE

Proportioned like a book, only 3-inches high. The look and feel of fine-grained leather, with the strength and rigidity of steel. In charcoal gray and brushed chrome.

A.I.A. File Number 31-i-51

Write for free brochure and name of nearest distributor

TALK-A-PHONE CO.
Dept. NE-3, 5013 N. Kedzie Ave., Chicago 25, Illinois

For more details circle NED-191 C1 on enclosed inquiry slip

MOTOR PROBLEM?

"PERSONALIZED" MOTORS
FOR YOUR NEW PRODUCT
Planned, Designed and Manufactured
by *Lamb Electric*

Years of experience in creating fractional horsepower motors for exacting product requirements means you get the RIGHT MOTOR, mass-produced at the most favorable cost.

FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference".

THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

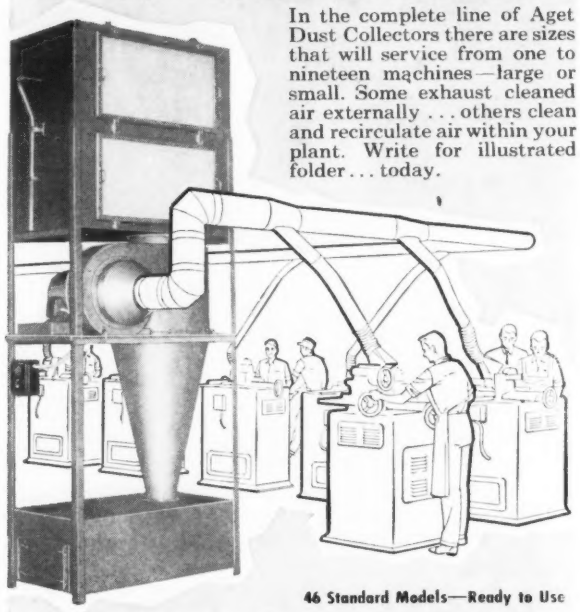
Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER **MOTORS**

For more details circle NED-192 C1 on enclosed inquiry slip

just ONE DUSTKOP STOPS DUST

heavy duty unit services up to 19 MACHINES

In the complete line of Aget Dust Collectors there are sizes that will service from one to nineteen machines—large or small. Some exhaust cleaned air externally . . . others clean and recirculate air within your plant. Write for illustrated folder . . . today.

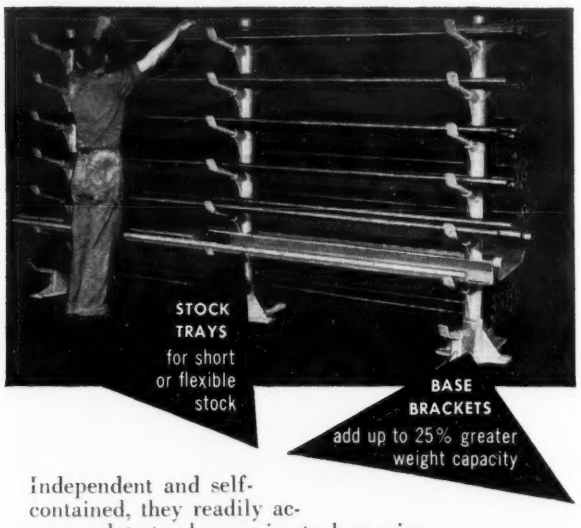


46 Standard Models—Ready to Use

AGET manufacturing company
1396 Church Street • Adrian, Michigan

For more details circle NED-193 C1 on enclosed inquiry slip

FLEXIBLE STORAGE



Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, wrap, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

For more details circle NED-194 C1 on enclosed inquiry slip

One Hoffman Bit Drills Up to 15,000 Godet Wheels With No Downtime

Up to 15,000 Godet Wheels drilled with center hole tolerance 1.5 min. to 1.53 max.—with one Hoffman Laboratory Bit. Actual production figures that are being duplicated by many Hoffman Bit users for precision drilling of glass, ceramics, quartz, etc. Diamond impregnated or oriented surface set.

Write for Literature and Prices—FREE—Ask about Hoffman Diamond Impregnated Metal Coring Bits and Diamond Segmented Circular Saws

HOFFMAN BROS. DRILLING CO.
SINCE 1902
106 Cedar Street PUNXSUTAWNEY, PENNA.

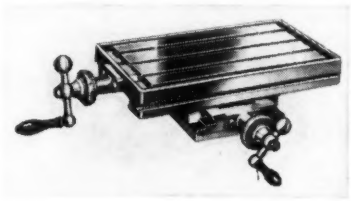
For more details circle NED-195 C1 on enclosed inquiry slip

HEAVY-DUTY LIMIT SWITCH
15-amp, 125-v unit for conveyors

Designed primarily for conveyor service, this UL-approved 15-amp, 125-v, heavy-duty, limit switch operates in either direction with 160-degree overtravel on ball bearings. The double-pole, single-throw unit has one pole normally open, one normally closed. It requires no lubrication and has a moistureproof gasketed aluminum case and cover. Contacts are visible under a Lucite plate. External arm is adjustable to 30 positions without removing the nut. Housing measures $5\frac{1}{2}$ x 2 11/16 x $2\frac{3}{8}$ in. • **Edon Industrial Products,** 4412 Fernlee, Royal Oak, Mich.

For more details circle NED-196 C1 on enclosed inquiry slip

COMPOUND MILLING TABLE
has $22\frac{1}{2}$ x $9\frac{1}{2}$-in. work surface



High torque of machine tools is accommodated by this compound milling table on operations involving end mills with diameters up to $\frac{1}{2}$ in. and jig boring to medium accuracy. The accessory table has a $22\frac{1}{2}$ x $9\frac{1}{2}$-in. ground work surface with two T-slots, perimeter coolant trough, and a third T-slot in the front vertical table surface. Longitudinal feed is $14\frac{3}{4}$ in., and cross feed is $6\frac{1}{2}$ in. Lead screws with ball bearing ball crank handles are scaled for easy reading to 0.001 in. Over-all height is 4 5/16 in. Table is used interchangeably on Boice-Crane 18, 24, and $25\frac{1}{2}$-in. geared head drill presses, and adapts to any press with table knee bored to $2\frac{3}{8}$ in. • **Boice-Crane Co.,** 951 W. Central Ave., Toledo 6, Ohio.

For more details circle NED-197 C1 on enclosed inquiry slip

GLOBE VALVE
for use in all-copper piping

This No. 424 copper-to-copper globe valve is rated for 125-psi working steam pressure or 200-psi water, oil, or gas service. Made in $\frac{3}{8}$ to 2-in. sizes, it has a screw-over-bonnet and swivel type disc holder with a composition disc for hot and cold water. Steam disc is interchangeable. • **Hammond Valve Corp.,** 1844 Summer St., Hammond, Ind.

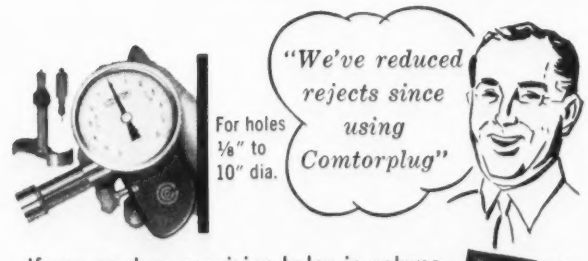
For more details circle NED-198 C1 on enclosed inquiry slip

Could an

E-X-P-A-N-D-I-N-G PLUG GAGE

solve a gaging problem for you?

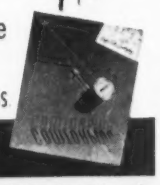
The Comtorplug expansion principle is unique . . . and proven. Hundreds of U. S. precision-production programs use it, including several of the very largest. The unique expansion plug gives true 2-point gaging. You see actual diameter in a fixed reading to fraction of .0001". You measure front or back taper exactly, also ovality, bell mouth, etc. Centering, alignment and pressure are automatic, allowing accurate use by all types of personnel.



If you produce precision holes in volume

SEND FOR BULLETIN 50

COMTOR COMPANY 73 FARWELL ST., WALTHAM 54, MASS



COMTORPLUG

For more details circle NED-199 C1 on enclosed inquiry slip

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

For more details circle NED-200 C1 on enclosed inquiry slip

Why the ROTARY UNION* Seals Revolving Joints BETTER LONGER

The Rotary Union seals revolving rolls and drums ***better*** because of its self-adjusting precision mechanical seal — ***longer*** because of its built-in protection against the stresses and strains which cause wear in ordinary rotating joints.

The Rotary Union seal is accomplished by two parallel, optically flat, lapped surfaces running together in an opposite plane in relation to the axis of the shaft. The seal is designed so that the pressure is automatically increased or decreased in proportion to the increase or decrease of the fluid pressure of the application. This is accomplished by the relation of the mean effective diameters of the bellows face (2) and the seal ring (4) without the use of springs. The monel bellows (1) compensates for wear and keeps the sealing surfaces (3) parallel at all times (not to be confused with thermostatic bellows). The initial pressure of the bellows is pre-set to overcome vacuum applications as well as maintain a tight seal when the unit is standing still and not in operation. May be factory serviced or field repairable.

There is a type and size Rotary Union for every application . . . pipe sizes ¼" through 5". Write for Bulletin 700.

*Trade Name — Patented

"WHERE *Good Connections* COUNT"®
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

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HELI-COIL® SCREW-LOCK INSERTS
LOCK SCREWS WITHIN THE HOLE, ELIMINATE External Locking Devices

One-piece, high-quality (18-8) stainless steel *Heli-Coil* Screw-LOCK Inserts become a permanently integrated part of the assembly, offer permanent, non-corrosive, strip-proof threads that lock screws *within* the tapped hole. Meeting military specifications for torque and vibration, they

- eliminate the cost, weight and space of lock nuts, lock washers or lock wiring
- permit simpler, lighter weight design . . . are usable in standard bosses
- protect threads against wear, galling, seizing, and shock
- offer high reusability in repeated assembly and disassembly
- prevent thread damage, in hard and soft metals

They are available in a wide range of sizes, including the new miniature 4-40. Write today for complete design manual.

HELI-COIL CORPORATION
3403 Shelter Rock Lane, Danbury, Conn.
In Canada: ARMSTRONG BEVERLEY ENGINEERING LTD.
6975 Jeanne Mance St., Montreal 15, Que.

For more details circle NED-202 C1 on enclosed inquiry slip

WHERE CAN YOU USE THESE "TIME SAVERS FOR TOOL MAKERS"?

UNIVERSAL BORE GAGE is a simple holder to which any "Last Word" type indicator can be attached. For checking bores, O ring or snap ring grooves, thread reliefs, undercuts, etc. Range, with extensions, .200" to 6.000". Satin finish. With 4 pairs of points, wooden case, extensions, metal stand, indicator. **$48.** Without indicator, **$24.**

CUTTER GRINDING FIXTURE for surface grinders. Sharpens all standard milling cutters up to 6" diameter. With bushings for 7/8", 1" or 1¼" bores, **$49.50.**

SWIVEL WHEEL DRESSER swings from 0 to 8" above chuck without cranking grinder spindle up and down. Adjusts either side of wheel, then locks. Precision ground, semi-steel base and arm casting. Serrated diamond chucks of hardened steel. With diamond, **$49.50.**

MACHINISTS' STEEL SQUARES. Save more than half the usual price! Accurate squares from England are precision ground all over with hardened and tempered blades.

2", $4.	8", $10.	24", $52.
4", $6.	10", $15.	30", $65.
6", $8.	18", $40.	36", $100.
		42", $125.

FREE . . . new 1961 guide to "Time Savers for Tool Makers." It's packed with time and work-saving tools you can put to good use in your toolroom and production line. Write for your copy today.

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All Montgomery tools are shipped on approval for 10 day free trial. We pay freight if check is sent with order.

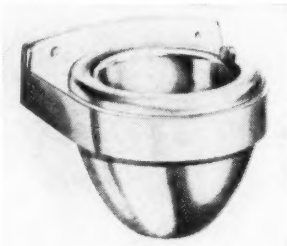
For more details circle NED-203 C1 on enclosed inquiry slip

AUTOMATIC BAR FEED
for lathes or screw machines

Round, square, or hexagonal bar stock can be fed into lathes or screw machines in any desired length to a fixed stop by the Power Grip automatic bar feed. All sizes and shapes within the capacities of each model are handled without set-up change. Height adjustment from 38½ to 50 in. is provided by telescoping stands. Regulator, gage, valve, piston, and two stands are standard. Tube lengths are from 6 to 20 ft. Models with 1⅜, 1¾, 2⅞, and 3¾-in. capacities have a nominal 6-ft bar capacity, but will handle 12-ft bars. Special sizes for lengths to 25 ft can be built. • **PowerGrip, Inc.**, Rockfall, Conn.

For more details circle NED-204 C1 on enclosed inquiry slip

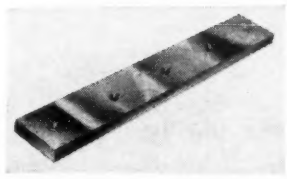
CIGARETTE URN
wall mounted, has tip-action top



This wall-hung No. 6006 cigarette and waste receptacle can be permanently fastened at any desired height. The 202 model shown is available in satin chrome or rich bronze, and has a stainless steel tip-action top unit. Top is easily removed for emptying metal inner pail. • **F. H. Lawson Co.**, 801 Evans St., Cincinnati 4, Ohio.

For more details circle NED-205 C1 on enclosed inquiry slip

SHEAR BLADES
available in three steel grades



Alloy steel, armor plate, high carbon and mild steels, skelp, stainless steel, aluminum, brass, copper, magnesium, and titanium are among the metals which can be sheared by three grades of O-Kni-Co shear blades. OK Battle Axe high carbon, high chrome steel blades will shear mild steels and metals up to 0.25 in. thick. OK No. 4 Hi-Speed steel blade cuts cold reduced sheets or strip in mild and silicon steel from 0.005 to 0.032 in. Third grade is OK DuraChrome, a high carbon, high chrome, shock resisting steel for medium duty cutting, shearing hot or cold plate up to 0.25 in. thick, and for short runs and extra heavy plate up to 0.625 in. All blades are ground to tolerances of 0.0015 in. Many sizes are stocked and any size to fit any shear can be made. • **Ohio Knife Co.**, Dept. H, Dreman Avenue, Cincinnati 23, Ohio.

For more details circle NED-206 C1 on enclosed inquiry slip

CORROSION-PROTECTED by TYGON Hot Spray PAINT

Here's long-term corrosion protection, and . . . important savings in time, labor and materials.

Tygon ATD* Hot Spray Vinyl Paint forms a tough, impermeable vinyl film that is thick, dense and free from imperfections. With a single pass of a spray gun you can build a coating five times thicker than by cold spray.

Labor is cut up to 30% and more . . . thinners are eliminated . . . wet overspray is eliminated.

All this plus the time-proven corrosion resistance for which Tygon is famous.

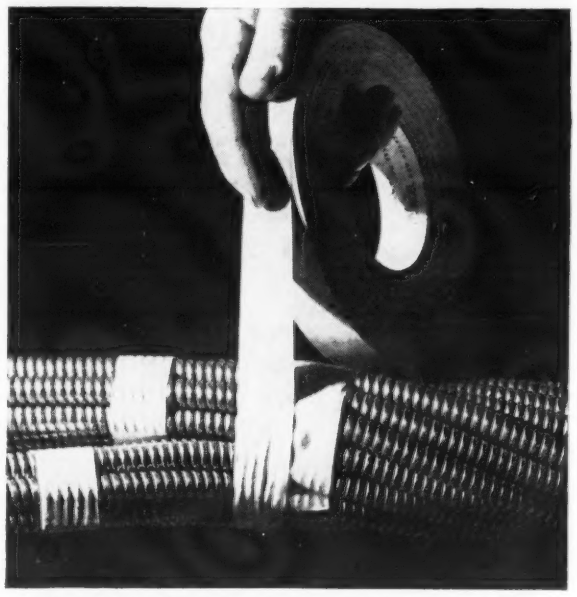
133-E

Right now . . . Write now for Bulletin ATD-34

PLASTICS & SYNTHETICS DIVISION
U. S. STONEWARE
AKRON 9, OHIO

ADHESION • THICKNESS • DENSITY

For more details circle NED-207 C1 on enclosed inquiry slip



PERMACEL Cloth Tapes are made in a variety of strengths, thicknesses and backings for every type of sealing, holding and protecting.

PERMACEL® NEW BRUNSWICK NEW JERSEY
Tapes • Electrical Insulating Materials • Adhesives

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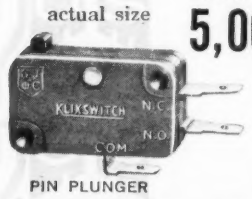
Tested Service Life up to
5,000,000 CYCLES
for electronic, mobile, industrial, aircraft and appliance applications
GENERAL CONTROLS

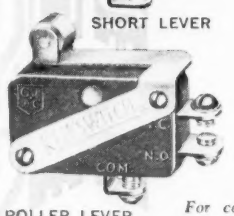
actual size



PIN PLUNGER

"S-8" KLIKSWITCH

SHORT LEVER



ROLLER LEVER

Featuring ¼ to 10 amps capacity in postage stamp size, the new "S-8" Klikswitches offer precision repeatability . . . adaptability to any low-force or standard actuator . . . variety of terminals and contacts to suit infinite single or rigid multiple-mounted applications. General Controls developed "S-8" precision on-off switches to save *you* time and money through new availability of complete switching packages from one source.

For complete information check the yellow pages of your local directory for your nearest Authorized Distributor or General Controls Factory Branch Office.

PIC AUTOMATION CONTROLS DIVISION
GENERAL CONTROLS
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For more details circle NED-209 C1 on enclosed inquiry slip

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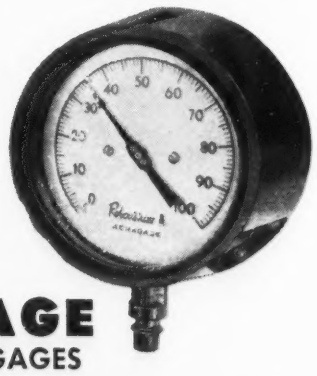
. . . immediate deliveries on famous
ACRAGAGE
SOLID-FRONT GAGES



Our thanks to the many Acragage customers who said the best was worth waiting for . . . and who patiently waited till our Knoxville production got into action.

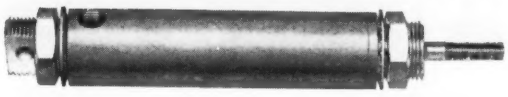
Now, we're really rolling . . . back orders are caught up . . . and we're guaranteeing immediate delivery from stock on most models—and extremely fast delivery on models made to order.

See your Robertshaw representative . . . or write today for Acragage Bulletin CN-761.

Robertshaw
Robertshaw-Fulton Controls Company
FULTON SYLPHON DIVISION, KNOXVILLE 1, TENNESSEE

For more details circle NED-210 C1 on enclosed inquiry slip

NEW HEAVY DUTY 7/8" BORE MINIATURE CYLINDERS



Double Acting and Spring Return

Maximum Pressure 250 psi AIR — 2500 psi HYDRAULIC, NON-SHOCK

• Now, a rugged, extra powerful miniature cylinder with all the features desired by designers! Ideal for automation equipment, jigs and fixtures where extra speed and stamina is called for and savings in space, air and cost are necessary. COMPACT: space-saving screw-together construction. INTERNAL CUSHIONS: of resilient Buna-N reduce shock and noise 80%. MOUNTS: Clevis rear, stud front or rear, or foot. ALL PARTS & SEALS: replaceable. PORTS: standard 1/8" NPT on side. TUBES: brass. RODS: high carbon steel, hard chrome plated. SHAFT BUSHINGS: Sintered bronze.

Six STANDARD STROKES available.

Clippard Minimatics

Write for NEW BULLETIN NO. 161

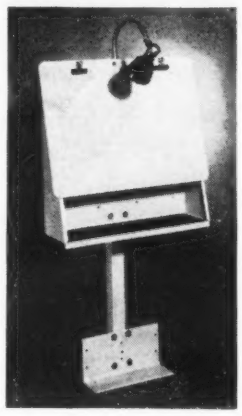
Clippard INSTRUMENT LABORATORY, INC.

7378 Colerain Rd., Cincinnati 39, O. • Phone: JAckson 1-4261

Manufacturers of Miniature Pneumatic Devices, R.F. Coils, Electronic Equipment

For more details circle NED-211 C1 on enclosed inquiry slip

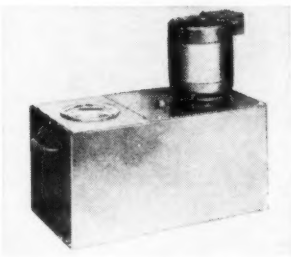
BLUEPRINT & TOOL HOLDER has 18 x 24-in. writing surface



A timesaving accessory for machine tools, work and inspection stations is this Machine Caddie blueprint and tool holder. It mounts on the machine and holds blueprints, sketches, tools, and instruments pertinent to the machine. Unit has an adjustable machine light, clips to hold prints and instruction sheets, and an 18 x 24-in. writing surface with a chart showing decimal equivalents, tool sizes, cutting speeds, and other data. Corrugated rubber pad in tool compartment protects instruments, and prevents rolling of small tools. Adjustable mount allows horizontal, vertical, or angular mounting. Complete unit price is $46.50. • **Kelm Mfg. Co.**, Route 2, Coloma, Mich.

For more details circle NED-213 C1 on enclosed inquiry slip

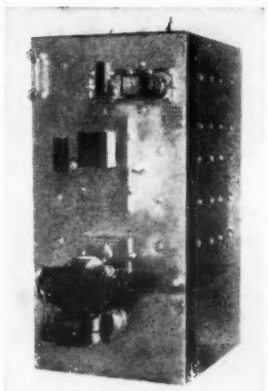
PUMPING SYSTEM for circulating lubricants



Consisting of a 5-gal container and a gear type pump driven by a totally-enclosed 1/8-hp motor, the Model SG1-16-08 pumping system circulates up to 1 gpm of lubricant. It is used for constant feed or flood lubrication, with recirculation, of bearings and journals on large machinery. A pressure relief valve can be set to control pressures up to 75 psi. • **Graymills Corp.**, 3705 N. Lincoln Ave., Chicago 13, Ill.

For more details circle NED-214 C1 on enclosed inquiry slip

WATER HEATERS 740 and 1350-gph units added to line

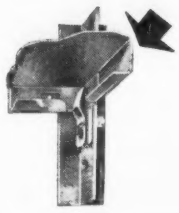


Added to line of tankless indirect water heaters are two larger sizes rated 740 and 1350 gph continuous operation at 100° F rise. Units are available for firing by oil or gas. Basic design, which provides proper balance between prime water content and recovery speed, assures high efficiency in a small size. It eliminates the corrosive action of raw water and lowers operating costs and maintenance. • **Columbia Boiler Co.**, Pottstown, Pa.

For more details circle NED-215 C1 on enclosed inquiry slip

LYON STEEL SHELVING

Patented Clip and Stud design provides lowest cost and quickest assembly plus complete adjustability without the use of bolts, nuts or tools.



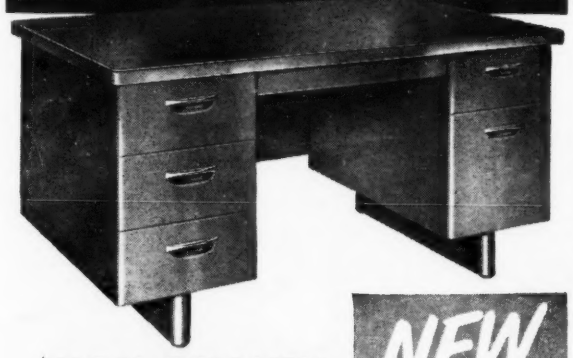
Write for free 100-page Lyon Catalog

LYON METAL PRODUCTS, INC.

General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

For more details circle NED-217 C1 on enclosed inquiry slip

LYON OFFICE DESKS



NEW

HIGH QUALITY LOW PRICE

An unbeatable value—this Lyon 60" office desk. Welded construction throughout. Skid-type base has adjustable feet. 26" center drawer, interchangeable pedestal drawers. Attractive gray finish. Heavy-duty linoleum top. Nylon gliders on all drawers. Also available, 42" single-pedestal model—60" conference table. *Write for* Free 100-page Lyon Catalog.

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LYON WORK BENCHES

HEAVY-DUTY STEEL TOP

Here are lifetime steel benches that thrive on hard usage. Tops won't crack, splinter, gouge or become oil soaked. Accessory equipment includes shelves, back and end stops, drawers, shelf risers and electrical outlet strips. Gray baked-on enamel finish. Also available—hardwood tops and pressed wood tops.

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LYON METAL PRODUCTS, INC.

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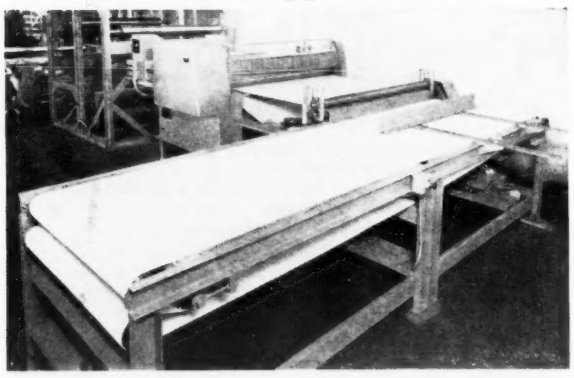
Dealers and Branches in All Principal Cities

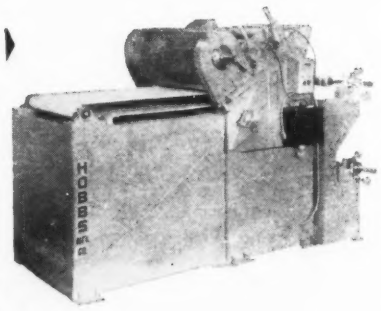
For more details circle NED-219 C1 on enclosed inquiry slip

What are your automatic cutting requirements? HOBBS Cutting Equipment *can satisfy them*

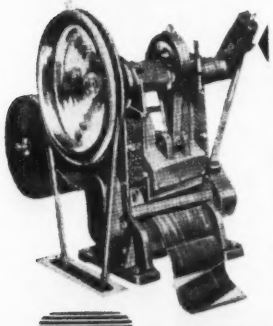


HOBBS AUTOMATIC SLITTER, CUTTER, STACKER AND CONVEYOR custom built for a prominent converter of asbestos, rubber and cork materials up to 60" wide. Automatically slits into various widths, chops to predetermined lengths and deposits material on conveyor belt for transfer to receptacle.

HOBBS ROTARY CUTTER



Automatically cuts, in a wide range of speeds, predetermined lengths (2" to 60") of materials from 24" to 60" wide, either from independent rolls, or in synchronization with other machines.



HOBBS AUTOGIL

Automatically cuts plastics, paper, felt, rubber, textiles and thin metals up to 3/16" thick, 5" to 24" wide, and in lengths up to 96" with speeds up to 126 cuts per minute. Made in 3 sizes and 2 styles.

Literature on request. Please state in which machine, or machines, you are interested.

HOBBS Manufacturing Company

EST. 1888

41C Salisbury Street, Worcester 5, Mass.

Direct sales offices in Irvington, N. J., Columbus, O., Chicago, Ill. and Los Angeles, California

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WINDERS • HAND & POWER SHEARS • SLITTERS
AUTOMATIC CUTTERS • DIE PRESSES 453-0

For more details circle NED-212 C1 on enclosed inquiry slip

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Gentlemen: Please send one copy of the new Spaulding Materials Handling catalog, free of charge.

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For more details circle NED-216 C1 on enclosed inquiry slip

High Accuracy Gages for High Vacuum

by Kinney®

Now you can KNOW the pressures in your Vacuum System with greater assurance . . . KINNEY High Vacuum Gages not only give you accurate readings, they give them to you *faster* and *easier*. The KINNEY Compensated Thermocouple Gage covers the range from 3000 to 1 micron. The GICT Ionization-Thermocouple Gage—from 3000 microns to 10^{-7} mm Hg.

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3800.1 Compensated Thermocouple Gage
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4510 Metallurgical Furnace Bulletin

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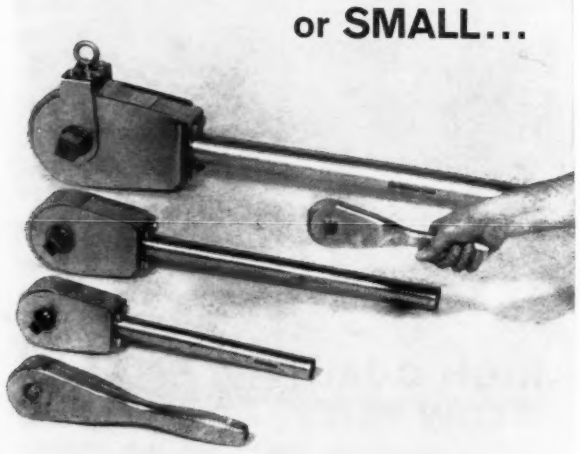
THE NEW YORK AIR BRAKE COMPANY
3612C WASHINGTON STREET · BOSTON 30 · MASS.

For more details circle NED-220 C1 on enclosed inquiry slip

Now tackle BIG jobs or SMALL...



SWENCH®

Manual Impact Wrenches

NOW AVAILABLE IN NEW ½" and ⅝" UTILITY SIZES

Small in size, the all new ½" and ⅝" SWENCH manual impact wrenches are big in power when it comes to loosening tough, small sized "frozen" nuts and bolts.

Like the heavy duty SWENCH wrenches for industrial use, the new ½" and ⅝" sizes apply a tremendous wallop of torsional impact in automotive, light industrial, commercial, and utility use.

Now a completely portable SWENCH can be taken to any job — big or small — for high speed, safe and easy removal of "frozen" nuts and bolts that previously had to be burned off or drilled out. SWENCH wrenches are economical too — they cost far less than other types of impact wrenches and save valuable man hours.

In addition to the new ½" and ⅝" sizes, SWENCH wrenches are available with ¾", 1", 1¼", and 1½" drives. Call your local industrial distributor today for a demonstration or write to:

AD NO 32 4

Don't wrench it,-SWENCH IT!

CURTISS WRIGHT

MARQUETTE DIVISION
1145 Galewood Drive, Cleveland 10, Ohio

For more details circle NED-221 C1 on enclosed inquiry slip

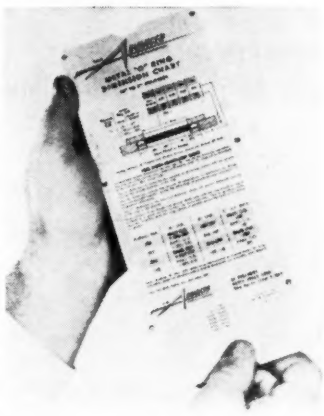
VACUUM PARTS LIFTER in 12, 15, and 18-in. lengths

Parts feeding and stock handling is facilitated with vacuum lifters made in 12, 15, and 18-in. lengths. Pickup and release of object is controlled by an un-

usual flap in the handle which is operated by light pressure of thumb. Operation is easy, even for operator wearing safety gloves. Part is released by removing thumb pressure. Lifters are equipped with 2¼ and 3⅛-in. replaceable neoprene vacuum cups. • **Stilson Tool, Inc.**, 30233 Groesbeck Highway, Roseville, Mich.

For more details circle NED-222 C1 on enclosed inquiry slip

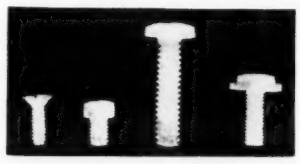
O-RING SPEC CHART covers diameters from ¼ to 50 in.



This simple-to-use slide chart provides specifications for plain, plated, and coated Metal-O-Rings in diameters from ¼ to 50 in. By setting the slide rule at the desired nominal outside diameter for any standard ring, the proper installation dimensions can be quickly determined. Chart also gives data on how to calculate installation dimensions for nonstandard size O-rings. • **Advanced Products Co.**, 59 Broadway, North Haven, Conn.

For more details circle NED-223 C1 on enclosed inquiry slip

MOLDED DELRIN SCREWS resist deformation above 150° F



Strength characteristics approaching those of metals, excellent electrical insulation properties, high tensile strength and rigidity, and dimensional stability are exhibited by injection molded Delrin screws. Made in types and sizes to parallel company's nylon screws, Delrin fasteners resist creep and deformation above 150° F. Other properties include low coefficient of friction and resistance to corrosive fluids. Screws are offered in round, binding, oval, washer, flat, and fillister head types and in plain, oval, cone, flat, half dog, and full dog headless set screw types in threads from 0-80 to ¼-20. • **Gries Reproducer Corp.**, 400 Beechwood Ave., New Rochelle, N. Y.

For more details circle NED-224 C1 on enclosed inquiry slip

CLOSURES

To Protect Threads, Tubes, Valves, Components, etc. from Dirt and Mishandling
Available from Stock

Special Closures Manufactured to Customers' Specifications, of Aluminum or Polyethylene. Quotations on request, furnish description desired including thread size.
Manufacturers of Industrial Closures Since 1944

CLOVER INDUSTRIES, INC. 601 Young Street Tonawanda, N. Y.

For more details circle NED-225 C1 on enclosed inquiry slip

Propels itself, forward and reverse! Lightning-fast cleaning action!

ABOVE. Heavy grease-caked dirt on wood block floor "drags" at truck wheels . . . causes power loss.

BELOW. Same floor after one-operation "dry-cleaning" with high-speed Tennant Model K-4 Machine.

New SELF PROPELLING TENNANT K-4 Industrial Floor Machine gets the "gunk" off floors fast

SELF PROPELLING TENNANT K-4 Industrial Floor Machine removes grease-caked dirt, grime, metal cuttings, dried paint and other deposits . . . *all in one fast operation and without damaging floor surface!*

Terrific cleaning power. Removes up to 20 lbs. of traffic-packed dirt per minute; covers 500 to 1500 sq. ft. per hour. Cleans a 16" path, works close to walls and machines.

Many new features. Propels itself, forward and reverse; reverses instantly for extra clean pick-up. Has 30% larger pull-through filter for better dust control. Engine is 28% more powerful. Has a new, longer-wearing wire brush.

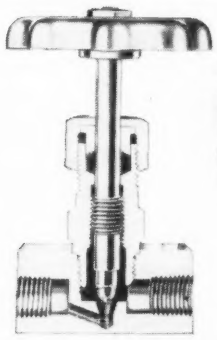
WRITE *for illustrated bulletin!*

TENNANT *Industry's Most Widely Used* **FLOOR MACHINES**

G. H. TENNANT COMPANY • 715C N. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

For more details circle NED-226 C1 on enclosed inquiry slip

MARSHALLTOWN



Marshalltown **NEEDLE VALVE** for fine regulation of water, oil or gas

Engineered to provide micrometer regulation of flow and positive shut-off. Machined from carbon steel or stainless steel. Withstands 10,000 P.S.I. at 70° maximum working pressure.

All Marshalltown gauges meet M.S.S. regulations. Die cast alloy handle is designed for heat dissipation and easy operation.

Let Marshalltown answer your needle valve, gauge or thermometer problems . . . write for information and prices.

Gauges

MARSHALLTOWN MANUFACTURING, INC.
A SUBSIDIARY OF THE ELECTRIC AUTOLITE CO.
MARSHALLTOWN, IOWA

For more details circle NED-227 C1 on enclosed inquiry slip

NEW There IS a Difference in HIGH VACUUM PUMPING SYSTEMS

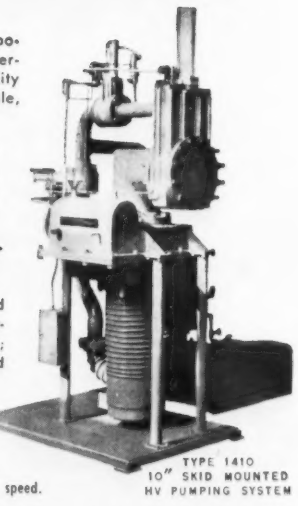
Complete, Factory-Assembled, Tested Pumping Systems

Using only high vacuum components of demonstrated good performance, reliability and suitability . . . Skid mounted or portable, ready for quick installation.

GENERAL VACUUM SERIES 1400 DIFFUSION PUMPING SYSTEMS Incorporate specially designed TWO-STAGE TRAP with Liquid-Nitrogen and Water-Cooled Baffles

This trap provides high conductance and low liquid-nitrogen loss rate. Water-cooled stage reduces backstreaming; liquid-nitrogen stage increases speed and lowers blank-off.

Series 1400 Pumping Systems give you the perfect Pumping Package in sizes from 2" to 32" with high speed backing pumps, or mechanical boosters for maximum roughing speed.



TYPE 1410 10" SKID MOUNTED HV PUMPING SYSTEM

Manual or Automatic Controls. Maximum Accessibility.
Literature on Request

GENERAL VACUUM CORPORATION
HICKS AVENUE, MEDFORD 55, MASSACHUSETTS

For more details circle NED-228 C1 on enclosed inquiry slip

use Levolier® switches for GUARANTEED performance

No. 41 Unconditionally guaranteed 6 amp. "T" 125 V - 3 amp. 250 V

No. 71 Only 15/32" thick 6 amp. "T" 125 V - 3 amp. 250 V

The high standards of design, workmanship and materials that make it possible to guarantee the No. 41 LEVOLIER® unconditionally against failure in lighting circuits are applied to all LEVOLIER switches. Cut switch failure and replacement costs. Use 6 to 20 amp LEVOLIER switches for canopy, fixture and FHP motor use. Also toggle push button and momentary contact types.

Available from your electrical wholesaler

Send for McGILL Catalog No. 84.

engineered electrical products
McGILL®
precision needle roller bearings

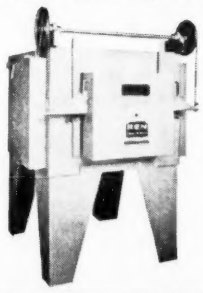
McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

▲ For more details circle **NED-229 C1** on enclosed inquiry slip ▲

SOLVE HEAT-TREATMENT PROBLEMS

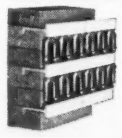
for Glass, Steel, Aluminum, Ceramics, Chemical Processing

ONLY TRENT BOX TYPE FURNACES offer these performance advantages:



- Controlled, Uniform Clean Heat to 2300°F.
- Operate from Standard Voltages
- Standard Switches and Controls
- Require No Transformers
- TRENT "Folded and Formed" Electric Heating Element

THE HEATING ELEMENT MAKES THE DIFFERENCE!



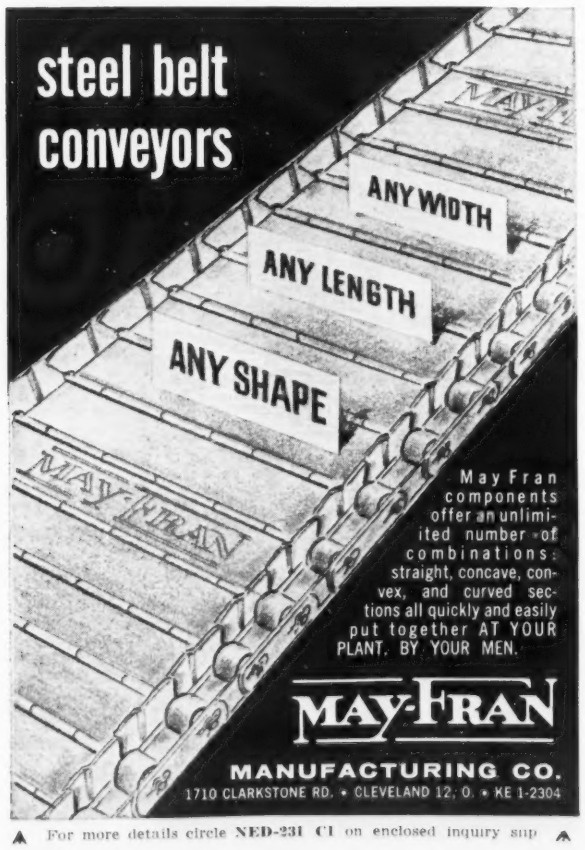
Surface of continuous "Folded and Formed" ribbon type element faces the work chamber—gives up to 4 *times the radiating area* per given cross section of ordinary types! Let TRENT engineers study your needs to determine the efficient and economical solution to your heating problems.

Write for Bulletin 75-TD

TRENT INC.
Electrically Heated Industrial Equipment

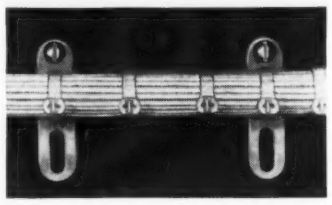
251 Leverington Ave., Philadelphia 27, Pa.
In Canada
Pioneer Electric Eastern Ltd., Toronto

▲ For more details circle **NED-230 C1** on enclosed inquiry slip ▲



▲ For more details circle **NED-231 C1** on enclosed inquiry slip ▲

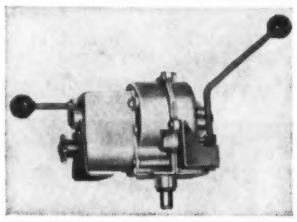
HARNESS CLAMP
for harness sizes up to 4 in.



Once installed, this premountable harness clamp does not have to be unmounted when a harness needs reworking. It takes a range of harness sizes up to 4 in. Used with Ty-Rap cable ties and straps, the clamp and a Ty-Rap replaces 52 sizes of conventional clamps. Two mounting bolt holes provide firm clamping. • **Thomas & Betts Co.**, 36 Butler St., Elizabeth 1, N. J.

▲ For more details circle **NED-232 C1** on enclosed inquiry slip ▲

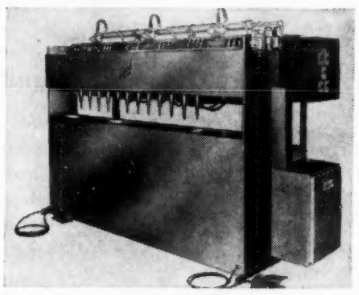
TWO-SPEED TRANSMISSION
14-lb unit has reverse and neutral



Right-angle Model P-334 transmission has two speeds forward, reverse, and neutral, all of which are controlled by the shift lever incorporated in the right-angle half of the unit. It is primarily designed for riding-type rotary mowers using vertical engines with capacities to 5½ hp. Reduction in high speed is 2:1; in low, 3.4:1. Recommended input speed is 1800 rpm. The compact unit weighs 14 lb, can be mounted in any position, and is lubricated with a high temperature grease. It is furnished with an eight-tooth hardened sprocket, although variations in assembly and components are available to suit the particular application. • **J. B. Foote Foundry Co.**, Box 2214, Ft. Dearborn Station, Dearborn, Mich.

▲ For more details circle **NED-233 C1** on enclosed inquiry slip ▲

MULTIHEAD SPOT WELDER
has 4, 8, or 12 heads



Although all heads of this multihead spot welder come down on the work at the same time, the transformers are cascade fired, one after the other, to prevent high power demand. Each head has its own cylinder, its own shut-off valve, and is individually adjustable. Standard four, eight, or twelve head welder has a timer and on-off switch for each transformer so that all or any combination of heads can be used. Squeeze-and-hold timer for uniform welds and a two-stage foot switch are incorporated. • **Alphil Spot Welder Mfg. Corp.**, 1058 Pacific St., Brooklyn 38, N. Y.

▲ For more details circle **NED-234 C1** on enclosed inquiry slip ▲

THIS SQUIRT LOOSENS-
FROZEN BOLTS ... BEARINGS

It's fast and accurate — shoots 15 feet — a drop or a squirt. It's labeled Kroil — so you can grab it quickly when a frozen bolt, screw or bearing starts to cost expensive time or threaten production.

That is when Kroil creeps into millionth inch spaces to soften rust, dissolve gum and supply lubrication to loosen the parts. It's fast and it's positive.

"Kano Kroil always opens up the tight fitting covers on fire extinguishers for us. We have found such covers we could not force off with a blow of a hammer. Several minutes' seepage of Kroil did the trick," so says a service organization for fire extinguishers.

If you are not one of the 19,000 industrial plants already using Kroil, send for a gallon on the proposition that it will loosen the most stubborn frozen part or you get your money back.

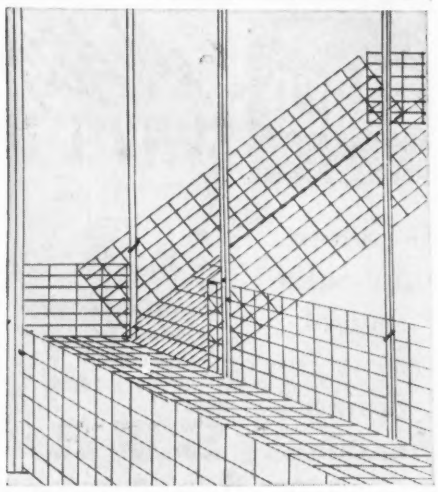
Kroilers are priced at $1.50 each. As an inducement to try Kroil we offer the combination of one Kroiler and one gallon of Kroil—(listed at $4.35) for $5.25 f.o.b. factory.

Ask for "Kroiler Deal" — order direct.

KANO LABORATORIES
1074 Thompson Lane, Nashville 11, Tenn.

▲ For more details circle **NED-235 C1** on enclosed inquiry slip ▲

Your Own Employees can easily install these conveyor guards



WIRE-SHIELD
Ready-to-install Conveyor Guards

Installation of WIRE-SHIELDS is fast, easy and inexpensive. Unskilled labor can install them without special tools. Pre-assembled 8 foot sections in choice of widths and heights are helixed together, forming a sturdy, lightweight protective channel for conveyors. Used on slopes, corners and straight runs. WIRE-SHIELDS are reusable and fold for storing. Shipped with non-corrosive aluminum finish, including pre-cut helixes and hanger clips.

Write for FREE Literature

SPRINGPORT STEEL Products Co.
SPRINGPORT • MICHIGAN

MEMBER mhi

11

▲ For more details circle **NED-236 C1** on enclosed inquiry slip ▲

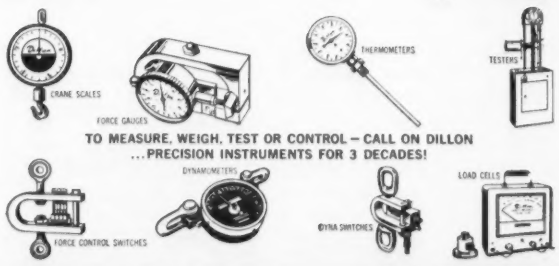
with Dillon crane scales, dyna-switches and remote-indicating load cells!

Here is a combination that covers almost every weighing and force control need in the average shop. Model "P" Scale is *sealed by the Los Angeles Bur. of Wts. & Measures* and is legal for trade. Life-saving Dyna-Switches prevent crane and hoist overloading. Dillon Load Cell Systems permit reading of crane loads *from a distance*...also provide *remote measurements of force and stresses in dangerous or confined areas!*

VALUABLE FREE ENGINEERING BROCHURES

If your responsibilities include safety, material handling or weighing and force measurement, this data is a **must!** Specify brochures desired: Crane Scales ☐ Dyna Switches ☐ Load Cells ☐

478



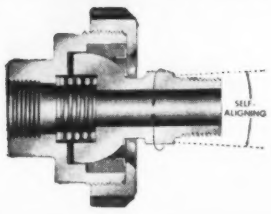
TO MEASURE, WEIGH, TEST OR CONTROL — CALL ON DILLON ...PRECISION INSTRUMENTS FOR 3 DECADES!

W. C. Dillon & COMPANY, INC.
DEPT. 119, 14578 KESWICK STREET, VAN NUYS 73, CALIFORNIA
Representatives in All Principal Cities

▲ For more details circle **NED-237 C1** on enclosed inquiry slip ▲

BARCO Self-Aligning SWIVEL JOINTS

—when you need swivel joints in piping handling



STEAM

NEW 11CTS CHEMICALLY INERT SEAL—Pressure sealing and automatically self-adjusting for wear. No lubrication needed; no ball bearings. Ideal for steam service. Uniform performance over temperature range from −50° to 450°F. Outlasts previous seals 4 to 6 times.

DESIGNED SPECIFICALLY FOR STEAM—Self-aligning. Provides a wide tolerance for pipe fitting and machine alignment on molding, platen, and board presses. Better heat control, maximum safety, permanent installation. Three to four times more service life than other methods of providing flexibility.

Send for Engineering Catalog 265B

Send for Catalog 265B, "Barco Self-Aligning Swivel Joints." Ratings as high as 750 psi steam or 3000 psi hydraulic. Sizes ¼" to 2"; 90°, 180°, or straight styles. *Ask for recommendations.* BARCO MFG. CO., 530-D Hough St., Barrington, Illinois.

▲ For more details circle **NED-238 C1** on enclosed inquiry slip ▲

"WE'VE NEVER BEEN STUMPED ON A U-JOINT APPLICATION"

BLOOD BROTHERS

Blood Brothers has solved more complex universal joint problems than any other manufacturer! Our experienced engineers have designed dependable, specialized units for a wide variety of applications from giant rolling mills to power lawn mowers . . . efficient universal joints from a mammoth 162,000 inch pounds torque capacity to 350 inch pounds.

If you manufacture a product needing a universal joint it will pay you to contact Blood Brothers. Our facilities and know-how will build universal joints to your specifications and to the highest quality. For additional information, write today for your free booklet giving specific data on Blood Brothers Universal Joints.

ROCKWELL-STANDARD CORPORATION
Universal Joint Division, Allegan, Michigan

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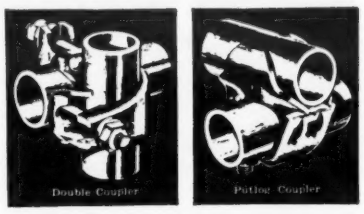
PORTABLE RAM BENDER
for steam and gas pipes to 2 in.

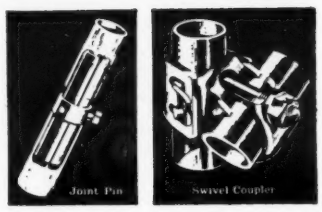
Model 2 HO (hand operated) portable ram bender develops 8 tons of thrust at 6000 psi to bend steam and gas pipes up to 2 in., extra heavy pipe, or heavy wall tubes. It has full power return and roller contact between pump handle and high pressure plunger to reduce wear and fatigue. Tools for ½, ¾, 1, 1¼, 1½, and 2-in. pipe are provided. Bender is also available with tube and flat bar dies. It is priced at $287.50. • **Wallace Supplies Mfg. Co.,** 1304 W. Diversey Parkway, Chicago 14, Ill.

▲ For more details circle **NED-240 C1** on enclosed inquiry slip ▲

SCAFFOLD CLAMPS
are high tensile stamped type

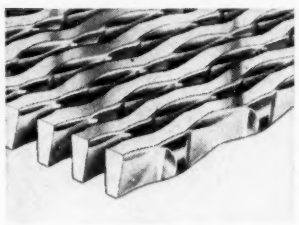


British - made scaffold clamps which are lightweight and rust resistant are produced by stamping for maximum tensile strength. The low-cost clamps fit any standard 1½-in. pipe, 1.90-in. tubing, or 1⅝-in. tubing. They afford a high degree of flexibility in erecting various types of scaffolding and material racks. • **Superior Scaffold Co.,** 5624 Bankfield Ave., Culver City, Calif.



▲ For more details circle **NED-241 C1** on enclosed inquiry slip ▲

FLUME & VIBRATOR SCREEN
screens out flats and slivers

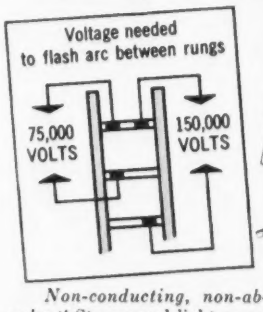


Poly Kleenslot wedge wire preparation screen is designed to screen out flats and slivers that would normally pass through a typical long slot screen. It has the same open areas and efficiency as the long slot screen. New type is made with 1-mm and larger openings and is adaptable for flumes and vibrator applications. It is easily interchanged with other types of Kleenslot screens without mechanical change. • **Wedge-Wire Corp.,** Wellington, Ohio.

▲ For more details circle **NED-242 C1** on enclosed inquiry slip ▲

Fiberglass ladders are strong and safe....

if they're Alco-Lite



Non-conducting, non-absorbent! Strong and light as an aluminum ladder. Tested safe around high voltages. Resist chemicals, acids, gases, fumes, moisture.

Meet ASA Code A14.2 for portable *metal* ladders. Wider side rails SOLID fiberglass—not plastic covered wood. Wide steps and rungs strong aluminum alloy. Ladders rigid, last longer. Maintenance negligible. Many models and sizes. *Send for CATALOG.*

Original Manufacturer of ALUMINUM Ladders
Aluminum Ladder Company
West Darlington Street Ext.
FLORENCE 4 S. CAROLINA

▲ For more details circle **NED-243 C1** on enclosed inquiry slip ▲

WHEREVER SOMETHING STICKS

Modern Packaging Engineers Use

IMS SILICONE FLUID SPRAY

WHEREVER ANYTHING STICKS TO METAL SURFACES—ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE
SILICONE FLUID COATING
And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

Handy Self Dispensing Can
Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO.
17601 So. Miles Rd. Cleveland 28, O.

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NEW LOW PRICE

FOR A *Quality* TYPE HOLDER

Here's economy with no sacrifice of durability for heavy-duty, straight-line marking. Made of famous Mecco Safety Steel to prevent mushrooming and spalling.

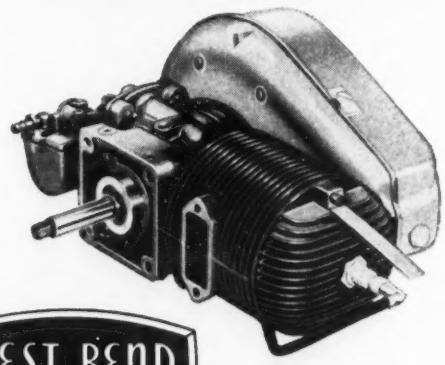
Write for M • E • Conomy Bulletin No. 681

Mecco SAFETY — A PRODUCT OF THE MARKING DEVICE INDUSTRY

M·E·CONOMY TYPE HOLDER

M. E. CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle **NED-245 C1** on enclosed inquiry slip ▲



WEST BEND

Power Bee ENGINES
for all powered equipment

SERIES 700
A 7.0 in. engine designed for continuous full throttle operation on saws, earth compactors or pumps. Rated 5 h.p.

SERIES 580
This 5.8 cu. in. model is an excellent replacement engine for chain saws, pumps and generators. Rated 4 h.p.

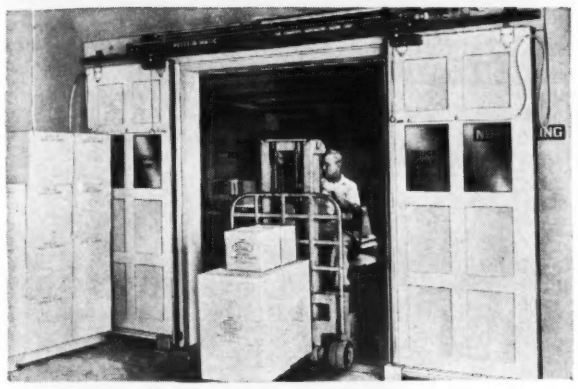
SERIES 390
West Bend's 3.9 cu. in., light duty power plant. Rated 1.6 h.p. at a governed 4,000 rpm.

You can count on West Bend engines for easy starting, full power and minimum "down time." Their dependability has been proven in thousands of hours of operation on karts, saws, earth compactors, pumps and generators. All models have good "lugging" ability. Write for literature and information on sample engine program.

WEST BEND ALUMINUM CO.
Dept. 1362, HARTFORD, WIS., BARRIE, ONT.

▲ For more details circle **NED-246 C1** on enclosed inquiry slip ▲

SAVES MAN HOURS



PREST-O-MATIC® DOORS

Eliminate Waste Motion

No need for fork truck drivers to stop—or even slow down. They simply pull an overhead cord and continue on their way. Doors open and close *Prest-O-Matically.*

You save time, you save dollars, because faster traffic means more trips. Pre-fitted to your doorway, Prest-O-Matics come in one complete easy-to-apply package. Bifold or Sliding. You choose the motive power, Air or Electric. See our insert in Sweet's Catalog or write for full facts.

CLARK DOOR COMPANY, INC. *(since 1878)*
511 Hunterdon St., Newark 8, N. J.

For more details circle **NED-247 C1** on enclosed inquiry slip

AIRETOOL

TUBE EQUIPMENT FOR EFFICIENT BOILER OPERATION

Airetool's powerful pneumatic tube maintenance equipment is designed for fast removal of deposits from straight or curved tubes. Expanding brush head cleaners with flexible shafts clean, polish and remove light scale from small tubing with short radii bends. Centralizer-equipped shafts prevent tube wall damage and brush tufts are renewable.

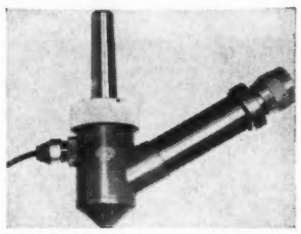
Airetool manufactures a complete line of self-feeding cleaner heads for larger straight and curved boiler tubes. Equipped with universal joint, they clean hard deposits quickly and easily from curved tubes of all sizes. Get information on all Airetool tube maintenance equipment by writing:

Branch Offices: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge
Representatives in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii
Canadian Plant: Brantford, Ontario
European Plant: Vlaardingen, The Netherlands

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

For more details circle **NED-248 C1** on enclosed inquiry slip

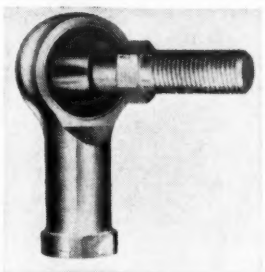
JIG BORER MICROSCOPE
incorporates built-in light source



Total magnification of 25X is attained in the Leitz jig borer microscope by a 2X objective with a $2\frac{3}{8}$-in. working distance and a $12\frac{1}{2}$X adjustable eyepiece. The inspection device has a low voltage light built into the tube. A beam splitter directs the light through the objective, providing vertical surface illumination which is regulated through a variable transformer. Eyepiece contains both a hairline cross and a series of concentric circles. Taper and straight shanks are available, both interchangeable and adjustable for truing. • **Opto-Metric Tools, Inc.,** 137 Varick St., New York 13, N. Y.

For more details circle **NED-250 C1** on enclosed inquiry slip

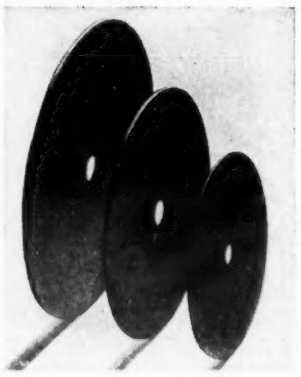
ROD END BEARINGS
provide linkage under misalignment



Large size rod ends, control rod assemblies, and high angle rod ends with studs are now available for use in a variety of mechanisms. Used in linkage systems where misalignment must be accommodated, bearings are constructed for sustained rotational operation and withstand pounding loads and speeds in many crank applications. They have a precision ground, hardened steel race around an oil-impregnated sintered metal ball. A race radius slightly larger than the ball radius eliminates binding at the edges of the race when bearing is under load. • **MPB, Inc.,** Split Ballbearing Div., Lebanon, N. H.

For more details circle **NED-251 C1** on enclosed inquiry slip

CUTOFF WHEEL
cuts on both sides and face

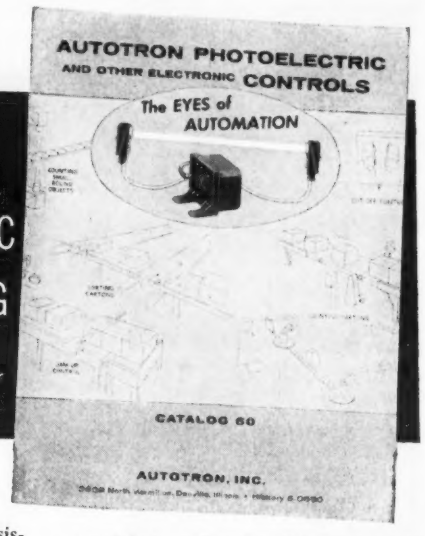


Heat producing, metal-burning friction in cutoff operations is minimized by use of the Sharp-Sided cutoff wheel. It has cutting action on both sides as well as the face, and it actually grinds its own clearance in cutting rapidly with little burn or burr. Minimum heat generated cuts wheel wear and permits use of a harder wheel. Resinoid bond only is available. • **American Emery Wheel Works,** 1 Richmond Square, Providence 1, R. I.

For more details circle **NED-252 C1** on enclosed inquiry slip

NEW PHOTO-ELECTRIC CATALOG

Send for your copy TODAY



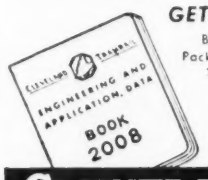
Describes transistorized and conventional photoelectric controls — normal, high speed, ultra sensitive and impulse actuated controls — photoelectric timing controls — complete line of light sources — including many protective features.

Simplified application diagrams cover widely varied requirements such as automatic control of conveyors; inspection, sorting, die protection, counting, weighing, limit control, car washing control, piling to exact count, safety control, conveyor traffic and jam-up control, timing control, spraying automation, automatic ramp traffic control.

AUTOTRON, INC.
Box 722D Danville, Ill.
Representatives in principal cities

For more details circle **NED-254 C1** on enclosed inquiry slip

Installation of a 5-ton Cleveland Tramrail crane enabled a company to save on a bundling charge made for smaller bundles of rods, bars and angles it uses. This savings is $2.00 per ton. As 200 tons are used monthly, this amounts to $400 per month. Another saving of 2 man-hours per car is also made because of faster, more efficient unloading.



GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6651 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

For more details circle **NED-255 C1** on enclosed inquiry slip

ERIEZ
60 seconds that

BIG NEW FREE CATALOG
shows you how Permanent Magnets can work for you...

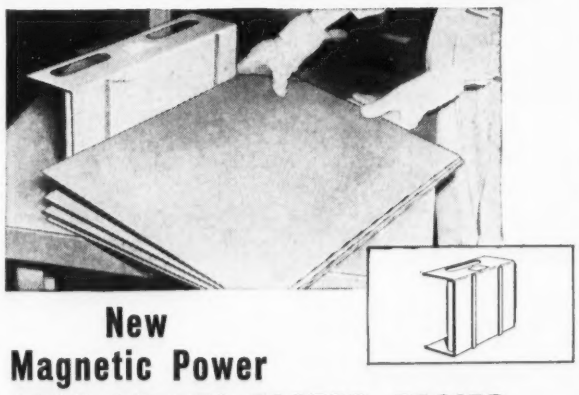
Eriez Hi-Powr® Magnetic Separators put powerful, never-failing magnetic strength to work in your plant to remove dangerous tramp iron and fine iron contamination. There's an Eriez Plate, Pulley, Grate, Drum, Hump, Ferrous Trap, etc. for most every wet or dry separation job. Eriez has the unit to solve your problem. Write for big free catalog to:

ERIEZ A GROWTH COMPANY... 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO.
80QA Magnet Dr., Erie, Pa.

For more details circle **NED-249 C1** on enclosed inquiry slip

MAGNETIC
will help you improve



New Magnetic Power
FANS SHEETS FASTER, EASIER

All new design and all new magnetic power are combined in Eriez Sheet Fanners to give you the most efficient fanning action ever. Oily, sticky, hard-to-handle sheets can now be handled easier, safer. Increase production... increase profits!

Choose from three strengths in four functional heights. Write for descriptive bulletin to:

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ERIEZ MANUFACTURING CO.
80QB Magnet Dr., Erie, Pa.

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MINUTE
operating efficiency!

Feeds Anything!
POWDERS to PARTS... RIVETS to ROCKS

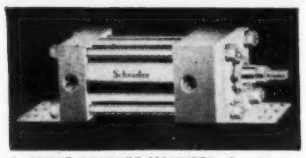
There's an Eriez Vibratory Feeder to move almost any bulk material accurately and economically with 100% range of control, whether you're feeding ounces or many tons per hour. Versatile, AC-operated Eriez Hi-Vi® Feeders need no rectifier, have totally enclosed drive, exclusive fibre glass springs.

Write for descriptive bulletin to:

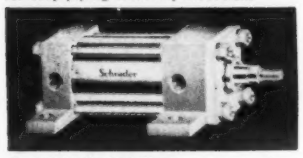
ERIEZ A GROWTH COMPANY... 10 NEW PRODUCTS IN THE LAST 5 YEARS

ERIEZ MANUFACTURING CO.
80QC Magnet Dr., Erie, Pa.

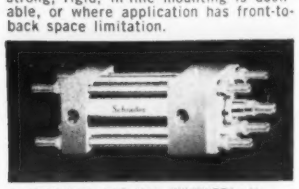
For more details circle **NED-256 C1** on enclosed inquiry slip



1. ANGLE BRACKET MOUNTED. Can be repositioned to tie rods on any side of cylinder with respect to ports providing for easy piping from any direction.



2. SIDE LEG MOUNTED. For use where strong, rigid, in-line mounting is desirable, or where application has front-to-back space limitation.



3. EXTENDED TIE ROD MOUNTED. Versatile mounting for either front, back, or both ends in straight line applications. Cut off unwanted rod extension.

SCHRADER SQUARE END CYLINDERS NOW HAVE

3 NEW MOUNTINGS

MEET AND EXCEED JIC specs . . . 250 psi air . . . 750 psi hydraulic. Double acting cylinders cushioned or non-cushioned . . . give compact, versatile straight line power. USE FOR holding, positioning, moving work . . . to push, pull, lift, or automate manual operations. ALSO MOUNT 4 other ways: bolt, flush, side flush and base.

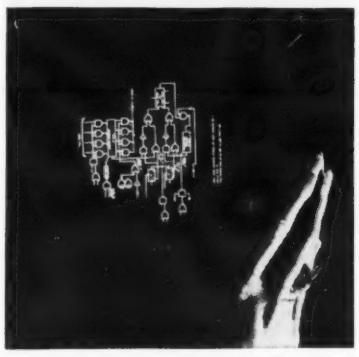
WRITE for FREE COPY of new JIC Cylinder catalog insert. Complete stocks available locally, plus expert help with air circuitry.

Schrader® a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

For more details circle NED-257 C1 on enclosed inquiry slip

MICROFILM RECORDER
makes engineering drawings from information supplied by computer

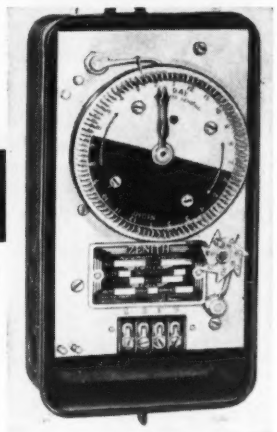


Using a mathematical code supplied by a computer, the S-C 4020 High Speed Microfilm Recorder makes complex engineering drawings in a fraction of a second. Computer is programmed with contours and specifications, and the information is transferred to the recorder which produces drawings of any view or cross section in three dimensions. It can draw straight lines, curves, circles, dotted lines, arrow heads, symbols, and dimensions.

Unit records information on 35-mm microfilm, and printing is accomplished by photographing displays on the face of a Charactron shaped-beam tube. Picture shows a logic circuit diagram displayed on the 7-in. tube face. An accessory permits automatic processing and projection of the film on a 2 x 2-ft screen within 8 sec. • **General Dynamics Corp.**, Stromberg-Carlson Div., Box 2449, San Diego 12, Calif.

For more details circle NED-260 C1 on enclosed inquiry slip

completely automates intermittent operations



ZENITH

Multi-Operation **TIME SWITCH**

AS MANY AS 48 "ON" AND 48 "OFF" OPERATIONS CAN BE HANDLED. The Zenith Multi-Operation Time Switch provides 24-hour automatic control of all types of equipment day after day. Schedule is set up on an easy-to-operate control dial scaled to 15-minute calibrations. Tripping clips are non-removable but easily slide to the ON or OFF position. Calendar cutout to provide for non-working days is available as an accessory.

Switch is powered by a heavy duty synchronous industrial motor. Rated at 1000 w., 60 cycle ac.

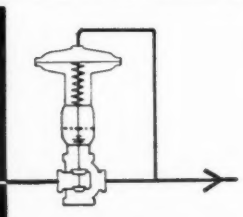
ASK FOR FULL INFORMATION. Request complete catalog on company letterhead describing Zenith Automatic Transfer and Remote Control Switches, Magnetic Contactors, Program Clocks and Timing Controls.

See Classified Directory for Name of Factory Representative

ZENITH ELECTRIC CO.
152 WEST WALTON STREET • CHICAGO 10, ILLINOIS

For more details circle NED-263 C1 on enclosed inquiry slip

Need a Pressure Regulator?



CONSIDER FISHER Series 655

For simple and accurate regulation of steam, oil, gas or other fluids, you will find this self-operated controller can not be beat.

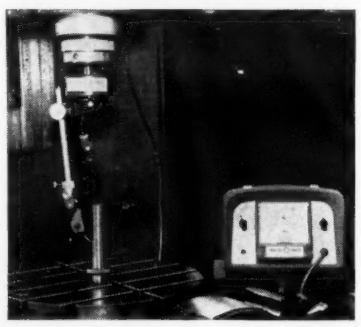
Suitable for pressure ranges between 1 and 150 psi for pressure reducing or pressure relief service. Sizes 1" to 6".

Write for Bulletin C-655.

FISHER GOVERNOR COMPANY
Marshalltown, Iowa • Woodstock, Ontario

For more details circle NED-258 C1 on enclosed inquiry slip

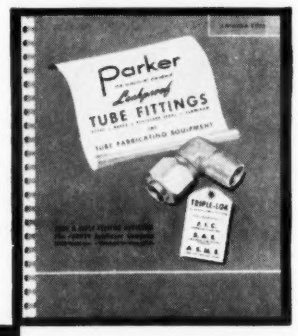
HOLE CENTERING GAGE
aids positioning of work when used on machine tool spindle

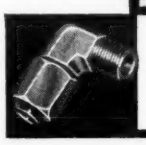


Linear accuracy of Trans-O-Limit centering gage, for precise hole locating from a machine spindle, is within 1 per cent of full scale or 0.0000025 in. The rapid responding unit has radial capacity of 23 in. ID and 19 in. OD, and depth capacity of $8\frac{3}{8}$ to $18\frac{1}{8}$ in., depending upon part configuration. Gage includes interchangeable arbors for different mountings and either of two instrument cabinets with different amplifiers.

One cabinet has magnifications of 0.0005, 0.001, 0.005, and 0.010 in. full scale; the other, 0.001 and 0.010-in. magnifications. Gage will aid positioning and aligning work on machine table, checking spindle run-out, and measuring holes, plugs, and bosses for squareness, taper, roundness, bellmouth, concentricity, and center-to-center distances. • **Pratt & Whitney Co.**, 20 Charter Oak Blvd., West Hartford 1, Conn.

For more details circle NED-261 C1 on enclosed inquiry slip





Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-264 C1 on enclosed inquiry slip

LOCK OUT AIR FOR MACHINE REPAIR

Ross

Locks Out and eXhausts VALVE

Lock out air that operates a machine, as a safeguard when making machine repairs. The Ross L-O-X Valve installs in the supply line leading to the machine, upstream of any operating valve. Designed so that when closed, supply-air to the machine is shut off and air downstream is exhausted. Can be padlocked in this position.

More L-O-X valves can be incorporated in the circuit to shut off and exhaust various segments of the circuit. Detented open; very low pressure drop; Lightweight aluminum construction. Call your Ross representative or write for literature.

ROSS OPERATING VALVE CO.
161 EAST GOLDEN GATE AVE. • DETROIT 3, MICH.

For more details circle NED-259 C1 on enclosed inquiry slip

Here it is . . . the NEW

OHIO GEAR Catalog

246 pages on gears and speed reducers

The new OHIO catalog—246 pages packed with useful engineering data, sizes, ratings and specifications on one of industry's most complete line of gears and speed reducers.

. . . new convenient size . . . clearly indexed . . . spiral bound to lay flat . . . fully illustrated . . . complete and unabridged.

WRITE FOR YOUR COPY TODAY!

Please use your company letterhead and specify your title or occupation.

CONTENTS:

Speed Reducers
- Reducer Classifications
- Engineering Data
- Installation & Maintenance
- Selection Chart
- Reducers by type and size

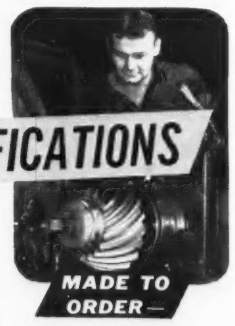
Gears
- Stock Gear Lists
- Rules for figuring
- Tooth Data
- Ratings

Sprockets
- Engineering Data & Tables

Ohio OHIO GEAR CO.
1408 East 179th Street • Cleveland 10, Ohio

For more details circle NED-262 C1 on enclosed inquiry slip

GEARS to your SPECIFICATIONS



EFFICIENTLY! ECONOMICALLY!

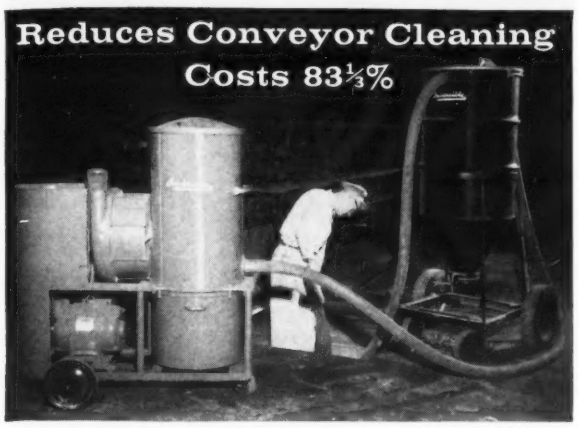
Making gears to meet YOUR SPECIFICATIONS is our business. The special or unusual requirements you have for design...size...finish ...tolerances...materials...and heat treatment are often "standard" at FAIRFIELD. Here, every facility needed is available to you for production of fine gears EFFICIENTLY, ECONOMICALLY. *LARGE or SMALL, your requirements will receive prompt attention.* CALL or WRITE TODAY.

SPIRAL BEVEL
STRAIGHT BEVEL
HYPOID
HERRINGBONE
HELICAL
DIFFERENTIALS
SPUR
WORMS AND WORM GEARS

FAIRFIELD MANUFACTURING CO., INC.

2335 S. Concord Rd. Lafayette, Indiana

For more details circle NED-265 C1 on enclosed inquiry slip



This Invincible vacuum system at Ohio Products Company (Orrville, Ohio, foundry of the Ohio Injector Company) has paid for itself in savings in less than a year.

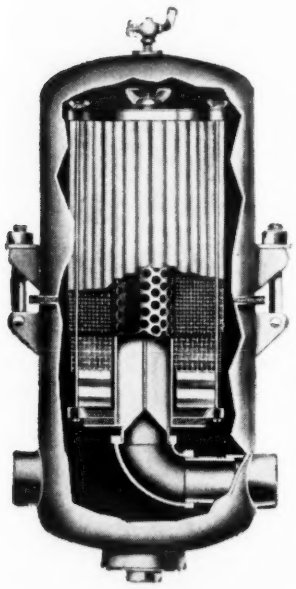
It cleans up spillage from the sand conveyor in 4 hours instead of the 16 per week formerly required. It eliminates weekend work, saving the equivalent of 20 hours in weekly wages. And complete cleaning assures uninterrupted operation by preventing build-up of sand underneath the conveyor pan and along the sides of the 180-foot trench.

Check the many uses for Invincibles . . . *send for new "Invincible Vacuum Equipment" folder.*

INVINCIBLE

vacuum cleaner manufacturing co. • Dover, Ohio

For more details circle NED-266 C1 on enclosed inquiry slip

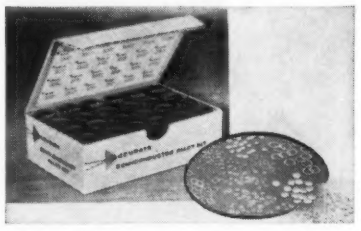


Keep oil, chemicals, water free of contamination. Specify Dollinger Staynew Liquid Filters for highly-efficient cleaning of practically all types of fluids. Remove the finest particles with minimum loss of pressure. Exclusive radial fin design provides greatest active filtering area for available space. Cleaning or replacement of filter is simple, inexpensive. Consult your Dollinger representative for more details. Or, write for Bulletin 300. Dollinger Corporation, 49 Centre Park Rochester 3, N. Y.

STAYNEW DOLLINGER FILTERS

For more details circle NED-267 C1 on enclosed inquiry slip

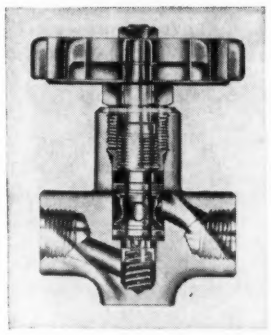
SEMICONDUCTOR ALLOY KIT contains over 25,000 preforms



Over 25,000 semiconductor preforms in the latest alloys are contained in this Z-100 kit for research work. Preforms are provided in such usable forms as discs, washers, and spheres, in 24 different alloys for use in germanium and silicon diodes, rectifiers, and transistors. Unique clad metals, such as indium clad aluminum, are included. All alloys are packaged in argon for maximum shelf life, and all have been documented to permit manufacture to the same specification in volume at a later date. • **Accurate Specialties Co.**, 345 Lodi St., Hackensack, N. J.

For more details circle NED-269 C1 on enclosed inquiry slip

SHUTOFF VALVE for 6000-psi air or liquid service



Constructed entirely of Type 303 stainless steel, Series 920-T shutoff valve is rated for up to 6000 psi operating pressure in liquid or gaseous service. It has Teflon V-packers for dead-tight seal, and they seat against a Belleville washer which maintains a constant sealing pressure. Seals can be replaced without disturbing piping. A floating sleeve rises to protect the V-packers from fluid flow when the valve is open. • **Circle Seal Products Co.**, 2181 E. Foothill Blvd., Pasadena, Calif.

For more details circle NED-270 C1 on enclosed inquiry slip

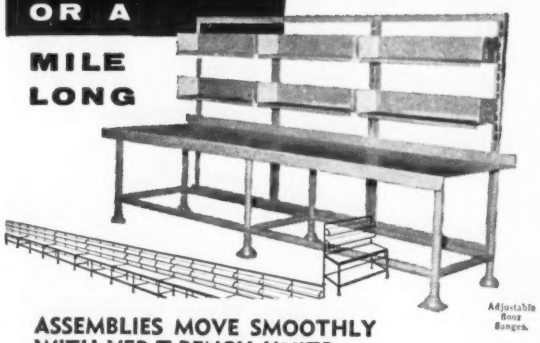
TUBE END POLISHER removes scale from boiler tubes

Mill scale, rust, and other deposits are removed from the exterior end of boiler tubes in 8 sec by Model TP2 portable tube polisher. The tool cleans a 4-in. length on tubes ranging from 1 through 2 in. OD. It is driven by an air motor which spins a pair of belt sanders around the tube end. A cast aluminum guard protects the operator. Tool has both a pistol-grip and top-attached support handle for easy handling. • **Hi-Shear Corp.**, 2600 W. 247th St., Torrance, Calif.

For more details circle NED-271 C1 on enclosed inquiry slip

THREE FEET OR A MILE LONG

The Ver-T-Bench



ASSEMBLIES MOVE SMOOTHLY WITH VER-T-BENCH UNITS

A truly DeLuxe assembly unit.

Many Advantages of Ver-T-Bench Units

More working area and assembly space

More storage space for finished work

Saves Man Hours · Saves Floor Space

No more clogged aisles No more littered tables

Write today for Descriptive Literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

For more details circle NED-273 C1 on enclosed inquiry slip

Available in Stainless Steel, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

For more details circle NED-274 C1 on enclosed inquiry slip

GOODYEAR

Steel-armored against punctures!

For the tough jobs use STEEL GUARD—rugged new pneumatic tire with built-in puncture-barrier. Here's why:

1. Heavy steel cables crisscrossed beneath tread make tire virtually punctureproof.
2. Thick, sturdy tread absorbs punishing blows, insures better traction.
3. Pneumatic design means smooth ride for cargo and driver —plus stand-out stability and flotation.

Ask your Goodyear dealer about STEEL GUARD—it stands up even in foundry and brickyard service! Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-268 C1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-272 C1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

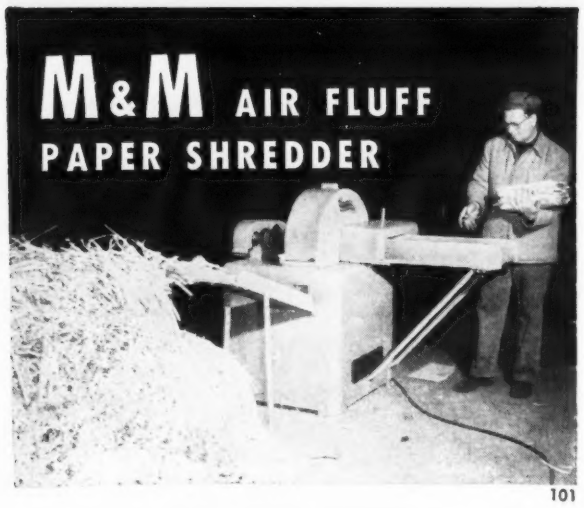
Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-275 C1 on enclosed inquiry slip



101

A valuable machine, to you, for the speedy, safe, efficient disposition of blueprints, letters, confidential records. The M & M Air Fluff Paper Shredder is also a money saver to those companies that use quantities of paper excelsior—by converting waste paper into valuable excelsior. Adjustable cuts of 1/8", 3/16", 1/4", or 3/8" widths. Models range in productive capacities from 200 to 2500 pounds per hour. Write for descriptive folder.

MITTS & MERRILL

1000 SO. WATER ST. • SAGINAW, MICHIGAN

For more details circle NED-277 C1 on enclosed inquiry slip

radically different!

NEW BORE INSPECTION GAGE

claimed most valuable addition to present inspection tools

NOT JUST ANOTHER COMPARATOR GAGE, BUT A COMPLETE SELF-CONTAINED MEASURING INSTRUMENT.

The only gage which you can set to any hole dia.—check the bore—and read the exact dimension . . . all in less than two minutes.

Built-in Size-setting controls eliminate need for jo-blocks, size plugs, master rings or other accessories. There's nothing extra to buy to check any I. D. from 3/8" to 3".

Gage has .005" Reading Scale, with 1000:1 magnification, graduated in thousandths, tenths and 1/2 tenths, accurate to .000025".

Unequalled for fast and accurate check of size, out-of-roundness, taper, bellmouth and barrel in open and blind holes, right up to edges.

Fastest gage for checking one part, Q.C. sampling, or 100% inspection of production runs or buy-out parts.

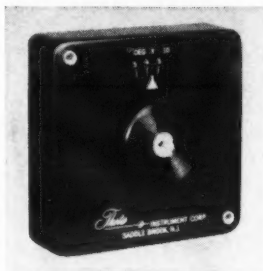
Comprehensive Gage Rental Plan includes free service and repair, eliminates obsolescence . . . keeps your cost amazingly low!

For more information or a demonstration, write directly to:

SUNNEN®
SERVICE CORP.
7933 Manchester Ave. St. Louis 17, Mo. 9674

For more details circle NED-278 C1 on enclosed inquiry slip

SMALL GEARED DIAL
sets pots, condensers, coils



A 36:1 ratio between setting knob and output shaft adapts this Mini-Dial to control-setting of pots, condensers, coils, and synchros. It can be installed on any shaft which projects from a panel. A coarse knob is connected 1:1 to the output shaft for rapid turning. Scales with either 0 to 360 degrees or 0 to 100 divisions are available. Built-in slip clutch prevents damage to devices of limited motion. The gear dial has a 3 1/16-in. square face and is accurate to within 0.2 degree. Price is $50. • **Theta Instrument Corp.**, 520 Victor St., Saddle Brook, N. J.

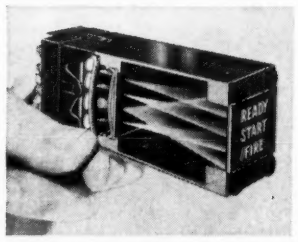
For more details circle NED-279 C1 on enclosed inquiry slip

MULTIPLE OUTLET BOX
user installs his own receptacles

User installs his own receptacles in the 3010 Series Multi-Tap outlet box which is molded in one piece of yellow Neotex and has an unbreakable plastic cover plate. Covers are available for four duplex or four single receptacles and can also be ordered with weatherproof flip lids. Provision is made for fusing each outlet, permitting gang operations with individual circuit protection. • **Daniel Woodhead Co.**, 15 N. Jefferson St., Chicago 6, Ill.

For more details circle NED-280 C1 on enclosed inquiry slip

SUBMINIATURE READOUT
displays colored words, background



Such words as ready, start, fire, or any other combination can be displayed in red, orange, yellow, green, or blue colors, or on backgrounds of these colors by Series 120000 subminiature readout. Unit is designed for use with computers, airborne equipment, instruments, control systems, and other equipment. It has a master condensing lens with 12 positions or lenses. On each lens is printed the desired message or color. When one of 12 lamps at rear is lighted, it projects the corresponding word or color onto the viewing screen. Unit measures 3 15/16 x 1 15/16 x 1 in. and is priced at $35. It is available in single units or in assemblies. • **Industrial Electronic Engineers, Inc.**, 5528 Vineland Ave., North Hollywood, Calif.

For more details circle NED-281 C1 on enclosed inquiry slip

HANDY • EASY-TO-CARRY • ALWAYS READY TO USE • LEAKPROOF

ELLISCO BRUSH TOP CANS

D STYLE
High quality bristle brush soldered in cap. Ring or detachable wood handle. Capacities: 3 oz. to 1 qt.

HO STYLE
Inexpensive. Applicator brush is riveted in screw cap. Capacities: 3 oz. to 1 qt.

These convenient, economical cans are ideally suited for applying small quantities of paints, shellac, pipe "dope", adhesives, red lead, layout blue and your own products. Use them to:

- STOP WASTE. Brush size is ideal for applying a small amount of liquid. Brush and contents won't dry out.
- SAVE TIME. Brush fastened to can lid makes application easy.
- SAVE MONEY. Buy materials in bulk and use as needed.

Write, wire or call for more details and prices

Ellisco Inc.
American & Luzerne Streets, Dept. G3 Philadelphia 40, Pa.
BAldwin 3-3405

For more details circle NED-282 C1 on enclosed inquiry slip

GRAVELY CLEAN-CUT 70

BIG MOW-BILITY DOES YOUR JOB BETTER!

in HALF the time at HALF the cost

Free your people for other important work; save man-hours. The Clean-Cut 70 ROTARY GANG MOWER gives you extra power, extra speed, extra maneuverability.

Ride at 5 MPH and cut a swath 70 inches wide! Change your cutting width *while you mow!* Trim, mow, mulch . . . all in one money-saving operation.

Unexcelled maneuverability with unique rear-wheel drive and steering. Mow slopes as steep as 30%!

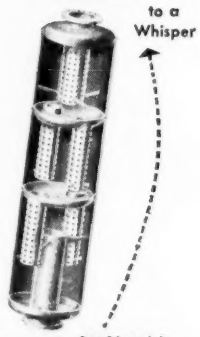
There's a 35 and a 24 inch rider mower and a self-propelled 20 inch unit, too. See what Clean-Cuts can do for your grounds.

Ask your Gravely dealer for a FREE demonstration, or write for complete FREE LITERATURE to:

GRAVELY CLEAN-CUT MOWERS
P.O. BOX 768-C DUNBAR, WEST VIRGINIA

For more details circle NED-283 C1 on enclosed inquiry slip

STOP THAT NOISE! from Air, Steam and other gas discharges with BURGESS-MANNING SNUBBERS



Stop that noise and profit through better neighbor and employee relations. Avoid compensation claims.

Burgess-Manning Snubbers are engineered to effectively correct your specific noise problem. There is no obligation for recommendations. Send us a description of your problem.

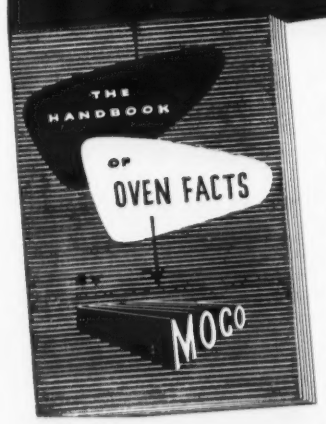
From a WHAM

Industrial Silencer Division
BURGESS-MANNING COMPANY
The Sound Engineering People 9227 Sovereign Row, Dallas 7, Texas
Sales Engineering Representatives World-Wide

For more details circle NED-284 C1 on enclosed inquiry slip

FREE!

If heat processing is your job—don't miss this "idea-packed" booklet



Never before have so many sound basic ideas on heat processing been available under one cover.

Written by engineering experts at Michigan Oven Company, it offers practical suggestions on what to look for in an oven regardless of your application.

Why not send for "The Handbook of Oven Facts"? It may be the most important decision you make today! Or, if you have a specific application, a MOCO representative will be pleased to call.

MICHIGAN OVEN COMPANY
419 Brainard, Detroit 1, Michigan

For more details circle NED-285 C1 on enclosed inquiry slip

SHIPPING DAMAGE?

Reduce it and cut packaging costs at the same time

Test your packages before shipping with L.A.B. Transportation Simulators

Testing packages in your own plant cuts shipping damage to a minimum and can often save thousands of dollars by revealing overpackaging. Eliminates time consuming test shipping. Detects unsuspected weaknesses in product as well as packaging.

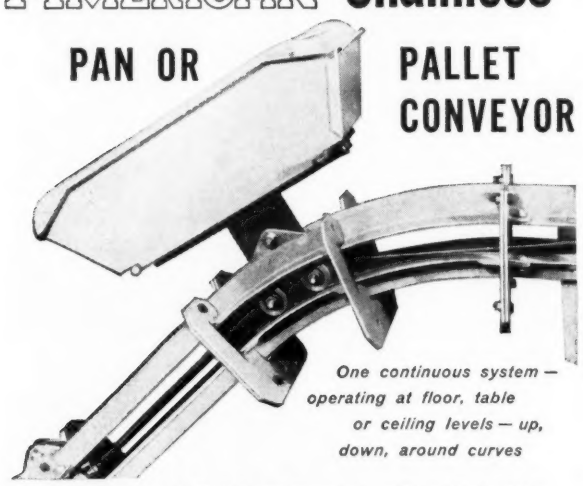
WRITE for new catalog of L.A.B. Transportation Simulators and Package Testers showing complete line of vibration testers, conbur (incline-impact) testers, compression testers, drop testers, quick release hooks.

L.A.B. Corporation, Skaneateles 8, N. Y.

For more details circle NED-286 C1 on enclosed inquiry slip

AMERICAN "Chainless"

PAN OR PALLET CONVEYOR



One continuous system — operating at floor, table or ceiling levels — up, down, around curves

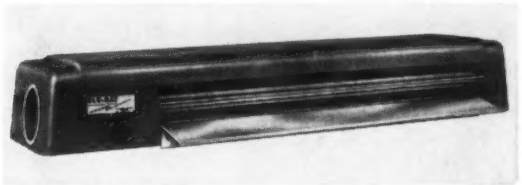
One American "Chainless" Conveyor, with a single drive unit, can do work which otherwise requires a complicated system of powered belt or roller conveyors with a number of drive motors and transfer points. The continuous "Chainless" conveyor negotiates horizontal or vertical curves, and can be extended to almost any length. Pallet attachments can be used in place of pans. Eight-wheeled trolleys have exceptional stability. Write for Catalog CD-B.

CONVEYOR DIVISION
THE AMERICAN MONORAIL CO.
Fourth & Franklin Streets • Tipp City 7, Ohio
In Canada: Canadian MonoRail Co., Brampton, Ont.

For more details circle NED-287 C1 on enclosed inquiry slip

REPRODUCTION MACHINE
speed adjusts for various papers

Added to the Blu-Ray portable rotary Diazo Whiteprinter, a speed control dial and faster motor enable it to print at any rate from 4 ipm to 6 fpm. It can



thus handle slow sepia papers or the new faster printing papers. Machine copies anything typed, written, drawn, or printed on any translucent material up to 42 in. wide and of any length at a cost of less than 2 cents per square foot. Papers are developed in an ammonia tube or in the new Blu-Ray rotary dry developer. • **Reproduction Engineering Corp.**, 680 Plains Rd., Essex, Conn.

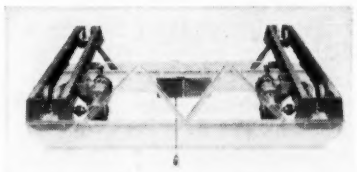
For more details circle NED-289 C1 on enclosed inquiry slip

CHAIN DRIVES
for 30 to 1800-hp gas turbines

A refinement of the silent chain principle, Hy-Vo (high velocity-involute sprocket) chain drives for transmitting power of small gas turbine engines are offered in 30 to 1800-hp ratings. Compensating links eliminate chordal action normally encountered at high chain speeds. They are also suited for driving auxiliaries of two-shaft gas turbines such as heat regenerators, lubricating oil pumps, fuel pumps, alternators or generators, cooling fans, governors, power takeoffs, and starters. Any combination of center distances and compounding requirements can be handled with stock pitches ranging from ¾ to 2 in. Widths range from 2 to 24 in. Drives are smooth running and compact and have high misalignment toleration. • **Morse Chain Co.**, S. Aurora Street, Ithaca, N. Y.

For more details circle NED-290 C1 on enclosed inquiry slip

MOTORIZED CRANE KIT
capacities to 6 tons, spans to 40 ft



On-the-job erection of motorized cranes using locally purchased structural beams is made possible by the Beacon line of motorized crane kits. Top-running and under-running types are available and consist of precision aligned individual driven end trucks, controls, instructions and mounting details. Capacities range to 6 tons, with spans to 40 ft and bridge speeds from 50 to 140 fpm. Adjustable ballast resistor controls assure smooth acceleration. • **Cleveland Beacon Products Co.**, 860 Addison Rd., Cleveland 3, Ohio.

For more details circle NED-291 C1 on enclosed inquiry slip

TO INCREASE PRESS EFFICIENCY

MINSTER® CLUTCHES FOR PRESS CONVERSIONS

MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

For more details circle NED-293 C1 on enclosed inquiry slip

the efficient **SEAL-GUARD®**

KEEPS DIRT OUT!

Modern *Seal-Guard* keeps hydraulic and pneumatic systems clean—protects packings and entire system. Two knife-like bronze wipers throw all contaminants outward as rod retracts into cylinder. Rubber retainer absorbs shock and side load, holds wipers in full contact with rod and provides an overall outside seal.

Send for all the facts on Seal-Guard. Write E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

Houghton

INDUSTRY'S PARTNER IN PRODUCTION

For more details circle NED-294 C1 on enclosed inquiry slip

TORIT

Torit Cyclone Separator Model. High efficiency collection of all types of dust, chips and shavings. Up to 95% of the dust is removed from the air, drawn into the top of cone by centrifugal force, and settled to the dust reservoir below. Clean air is exhausted outside the building or indoors through after filters.

Self contained, compact, portable steel units. End mounted motor and blower mounted in free air for cool operation, is detachable for servicing or relocation of outlet. Cones can be rotated for proper inlet location. Dust reservoir has pull-out drawer for easy cleaning. Individual capacities range up to 6500 cubic feet per minute. Larger units are built on special order.

Prices start at $335.

DUST COLLECTORS STOP LOSSES CAUSED BY DUST

- *machine wear*
- *absenteeism*
- *product damage*

With a Torit Dust Collector, machines stay clean, hold close tolerance up to 80% longer. Dust is kept off bedways, slides, and bearing surfaces. There are fewer accidents because work areas are clean and safe. Employees work more efficiently in clean air, their health protected. And there is no dust in the air to harm fine product finishes.

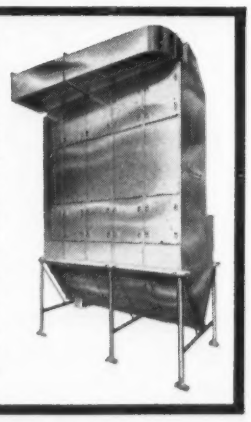
*For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 230

TORIT
MANUFACTURING CO.
1133 Rankin St. • St. Paul 16, Minn.

For more details circle NED-288 C1 on enclosed inquiry slip

TORIT

NEW TORIT DUST COLLECTOR IS AUTOMATIC!



Save real dollars with the benefits from this automatic dust collector. No more interruptions on production lines! Maintenance problems are practically eliminated. This all new continuously cycling TORIT dust collector automatically cleans your air and automatically shakes its own filters and blows them clean with reverse air flow. Collected material is emptied automatically.

OTHER EXCLUSIVE TORIT BENEFITS

- automatic filter-shaker mechanism is simple, maintenance-free
- different dusts may be collected separately
- highest air-to-cloth ratios (from 5 to 25:1) and longer filter life
- only ¾ H.P. required for fully automatic operation
- polished 3/16" aluminum construction for minimum floor loading
- modular design—5' wide x 4'-8" long (for two sections) x 15'-6" high—saves space, lends ease and versatility to installation. Use up to 12 modular sections for each application! No limit to CFM capacity!

Write today for literature.

TORIT MANUFACTURING CO.
Automatic Collector Division
Dept. 235 • 1133 Rankin Street • St. Paul 16, Minnesota

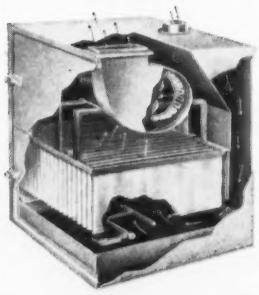
For more details circle NED-292 C1 on enclosed inquiry slip

TORIT

DUST COLLECTORS

keep plants clean lessen employee grievances save valuable dusts

Torit Dust Collectors keep plants clean . . . an important factor in protecting employee health and morale—and in lowering absenteeism and employee grievances. Economical, too, these units are portable. They cost a fraction of central built-ins and are not limited to certain areas. They save heat by recirculating clean, filtered air. And, as in tungsten carbide manufacturing or diamond grinding operations, they pay for themselves in days with the valuable dusts they recover.



Torit Cabinet Cloth-Filter Model. High efficiency collection of all types of dust. Particles are trapped on fine-woven cloth filters—99%+ efficiency (by weight). Clean filtered air is drawn past the motor and blower to keep it cool.

Self contained, portable steel cabinets. Removable doors allow ready access to filters, motors, and blowers. Filters are chemically treated for spark resistance and sealed against leakage. These compact units give maximum filter area in smallest possible space. Capacities range up to 2100 cubic feet per minute. Larger units are built on special order. Prices start at $230.

**For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 229*

TORIT MANUFACTURING CO.
1133 Rankin Street • St. Paul 16, Minnesota

For more details circle NED-295 C1 on enclosed inquiry slip

CHECK ID's FROM 0.125" to 12"...

New Sheffield Model N-8 Internalchek, with frictionless Electrojet gaging cartridge, has 40% lighter gaging pressure. Checks size, taper, bellmouth, out-of-round. Three interchangeable pairs of gaging arms with ranges 0.125 to 0.250; 0.240 to 12"; 0.370 to 12". Depths: ½", 1", and 1½". Dual range Accutron® instrument has 10M and 20M amplifications. Write for bulletin IN-157.

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

For more details circle NED-296 C1 on enclosed inquiry slip

NOW! Palmer Drum Warmers TO MEET EVERY REQUIREMENT

"T/H" DRUM WARMER

New! "T/H" (Tilting/Horizontal) Drum Warmer for fast, easy, small batch draw-off. Steel wheels permit easy tilting and maneuvering. Holds 55-gallon drums.

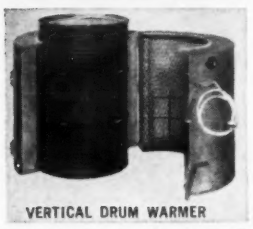
Palmer 5-Gallon Pail Warmer. Rugged, lightweight, portable. Weight: 22 lbs.

Palmer Vertical Drum Warmers. 14, 16, 30 and 55-gallon drum sizes.

5 GALLON PAIL WARMER

Fast, Low-Cost Warming of Heavy, Viscous Materials!

. . . for less than 5¢ per hour! Built-in thermostat: holds temperature regardless of weather. No hot spots—containers never touch heating elements. All-steel, rust-proof construction. Optional temperatures from 60°F to 550°F. *Over 100 combinations and sizes. Any voltage.*

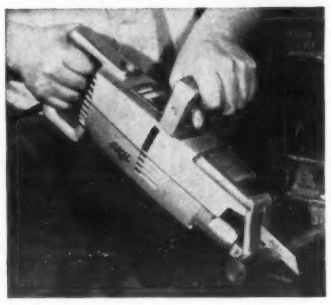

VERTICAL DRUM WARMER

WRITE or PHONE FOR DETAILS

HAROLD L. Palmer COMPANY
28623 Grand River Avenue
FARMINGTON, MICH. GR 4-4350

For more details circle NED-297 C1 on enclosed inquiry slip

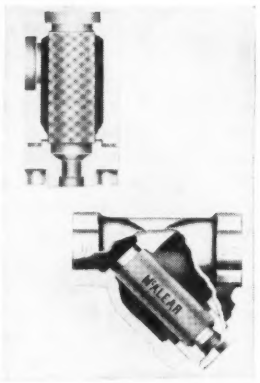
RECIPROCATING SAW
two-speed unit cuts various metals



Cutting speeds of 1000 and 1400 strokes per minute enable the Model 701 Recipro Saw to cut various metals from mild steel to hard alloys and stainless steel. The portable tool is suited for cutoff or pattern work in welding, metal fabricating, and various metalworking shops. Also offered is an improved version of the two-speed, all-purpose Model 700. It provides speeds of 3500 and 2600 strokes per minute for cutting wood, plastic, and many metals. Its stroke length has been increased more than ¼ in. to 13/16 in. for better chip clearance. Both models have a foot with 12 depth-of-cut adjustments, and both will mount blades off-center for cutting close to walls and corners. Model 700 retails at $99.50; Model 701, for $124.50. • **Skil Corp.**, 5033 Elston Ave., Chicago 30, Ill.

For more details circle NED-299 C1 on enclosed inquiry slip

ANGLE & Y-STRAINERS
made in sizes up to 3 in.



Traps, regulators, meters, and other equipment are protected against dirt, scale, pipe cuttings, and other foreign material by Y-type No. 530 and 530-G strainers. Suitable for all steam, water, air, oil, or gas applications, they have stainless steel screens in a choice of four perforation sizes. Semi-steel is available in ¼ to 3-in., ductile iron and cast steel in ⅜ to 2-in., and bronze and stainless steel in 1½ to 2-in. sizes. No. 532 block steel angle strainer is designed for service to 1500 psi at 850° F and cold pressures to 3500 psi (water, oil, gas) in carbon steel; higher pressures and temperatures in chrome moly steel. Sizes from ½ to 3 in. are for continuous (surface) blowdown assemblies or other high temperature and pressure applications. • **McAlear Mfg. Co.**, 1901 S. Western Ave., Chicago 8, Ill.

For more details circle NED-300 C1 on enclosed inquiry slip

Protective Cones

Central Safety Equipment Co., Elasticone Div.—Ways in which safety and efficiency can be built into OEM equipment through the use of Elasticone protective cones are related in Bulletin E-60. The helically wound steel ribbon covers are used to protect shafts, lead screws, rams, pins, and bushings. Stock prices and sizes are given.

For more details circle NED-301 C1 on enclosed inquiry slip

Valuable FREE BROCHURE

Whether you require the close tolerance needed in a satellite—or the economical production necessary for a 10c toy . . . DUDEK & BOCK is your most dependable source for springs, wire forms and stampings. Years of know-how *quality control* guarantee you top performance at lower cost.

Phone* DICKENS 2-1020 *for estimates and delivery dates

DUDEK & BOCK
SPRING MANUFACTURING CO.
4014 W. GRAND AVE. • CHICAGO 51, ILL.

For more details circle NED-303 C1 on enclosed inquiry slip

Vlchek Model P-824
24 compartment, clear plastic box
one of largest compartmented boxes ever molded

If you require plastic boxes for packaging your products . . . or for use in plant and office operations, see Vlchek.

Vlchek, pioneer plastics manufacturer, stocks boxes in 30 standard sizes . . . ready for immediate shipment. These are available in 1,000 compartment arrangements . . . crystal clear, tinted transparent, or solid colors. Complete imprinting service.

Or, if you need a special box of any type or shape, Vlchek will design and custom-manufacture it. Write us today. Our representative will call promptly. AA-9913

The **Vlchek** *Tool Co.*
SINCE 1895
Cleveland 4, Ohio

For more details circle NED-304 C1 on enclosed inquiry slip

RAYMOND®
Walkie Pallet Low-Lift

Low-cost walkie offers 24 volt power for heavy-duty operation and ramps. Three speed travel in forward or reverse. Compact, powerful, lightweight.

Exclusive safety feature protects operator from injury. Capacity: 4,000 lbs. Send for bulletin.

The RAYMOND CORPORATION
4125 Madison St., Greene, New York

For more details circle NED-298 C1 on enclosed inquiry slip

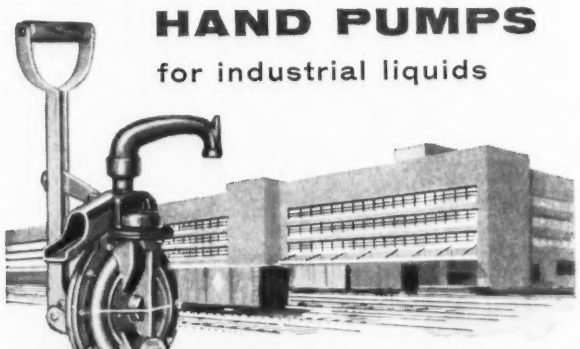
RAYMOND®
Walkie Stacker

Low-cost stacker tiers 2,000 lb. loads more than 10 feet high from aisles as narrow as 5 feet. Only 25½" longer than load. 24 volt power for faster lift and travel. Offers three speeds forward or reverse. Send for bulletin.

The RAYMOND CORPORATION
4126 Madison St., Greene, New York

For more details circle NED-302 C1 on enclosed inquiry slip

TOKHEIM High-Vacuum
HAND PUMPS
for industrial liquids



Here's an all 'round utility pump that saves much more than its cost in speeding production, improving housekeeping, preventing waste. Eliminates slippery floors and liquid accumulation so often the cause of fire and accidents. Delivers 20 gallons per 100 back and forth strokes. Pumps oil and many other liquids. (Write for approved list.) Has hose or spout outlet. Call your dealer, your Tokheim representative, or write factory.

QUALITY TOKHEIM High-Vacuum HAND PUMPS
UL FM

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Ave. Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland — GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

For more details circle NED-305 C1 on enclosed inquiry slip

Alcoa Alloy 6262-T9*

■ Higher yield strength than alloys 2011, 2017 and 2024 ■ Better corrosion resistance than alloys 2011, 2017 and 2024 ■ Better machinability and higher strength than alloy 6061

See your nearest Alcoa distributor or jobber—he carries a full line of Alcoa® Screw Machine Stock alloys for every application.

*Patent applied for

ALCOA ALUMINUM
SCREW MACHINE STOCK

For more details circle NED-306 C1 on enclosed inquiry slip

Alcoa Aluminum Fasteners

■ Any type; any size; made from high-strength, heat-treated alloys ■ Assemble easily, never seize or bind, because of precision threading and rigid inspection

Your local Alcoa distributor or jobber stocks huge inventory—can make quick delivery. Check your Yellow Pages under "Aluminum."

ALCOA ALUMINUM
FASTENERS

For more details circle NED-307 C1 on enclosed inquiry slip

Alcoa Aluminum Abrasive Tread Plate

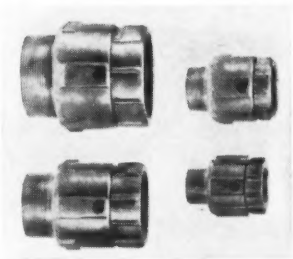
■ Wear uncovers additional abrasive particles—actually *renews* the surface ■ Slip-proof on wet, oily or greasy floors ■ Light weight—installs easier, faster ■ Corrosion resistant—never needs maintenance

Call your local Alcoa distributor.

ALCOA ALUMINUM
ABRASIVE TREAD PLATE

For more details circle NED-308 C1 on enclosed inquiry slip

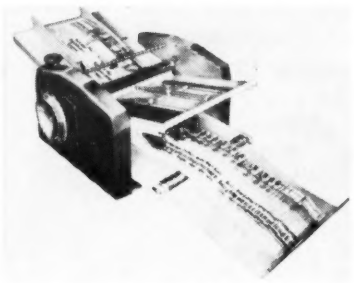
SWING JOINTS
made of aluminum in 1¼-4 in. sizes



Teflon bearing strip, felt wiper, and permanently lubricated and sealed ball bearings are built into the No. 126 series of straight swing joints. The repairable aluminum units are designed for fuel pipe size opening at both ends. Female or hose end is larger than the hose coupling for easy attaching and detaching. Sizes are 1¼, 1½, 2, 3, and 4 in. ● **Buckeye Iron & Brass Works**, Box 883, Dayton 1, Ohio.

For more details circle NED-309 C1 on enclosed inquiry slip

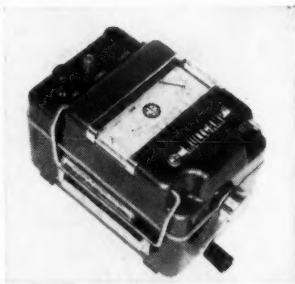
PAPER FOLDING MACHINE
delivers 15,000 sheets per hour



This Seventeen automatic electric folder will fold, perforate, score, and slit in separate or simultaneous operations. It handles all weights of paper stock from 10-lb onionskin to 120-lb index, produces all popular folds, and handles sheets measuring from 2½ x 6½ in. to 14 x 24 in. Machine will fold and deliver up to 15,000 sheets per hour. Powered by a 1/6-hp 110-v ac G-E motor, unit is furnished with all folding rollers, two scoring rollers, and one perforating roller. ● **Martin-Yale, Inc.**, 2100 W. Fulton St., Chicago 12, Ill.

For more details circle NED-310 C1 on enclosed inquiry slip

INSULATION TESTER
in 20 to 2000-megohm ratings



Valuable as an installation and maintenance tool, Type M miniature insulation resistance tester can be used to check electrical machinery, communication equipment, cable, wiring, and electrical parts. Testing is performed by direct current which is internally converted from alternating current supplied by the hand crank operated generator. Units are available in 20, 50, 100, 1000, and 2000-megohm resistances with respective voltage ratings of 100, 250, 500, 500, and 1000 v. Accuracy is within ±5 per cent, and response of 0.5 sec permits instant reading. The 5-lb unit is easily carried with fold-back metal handle, or in leather case carrier. ● **Multi-Amp Electronic Corp.**, Multi-Amp Div., 465 Lehigh Ave., Union, N. J.

For more details circle NED-311 C1 on enclosed inquiry slip

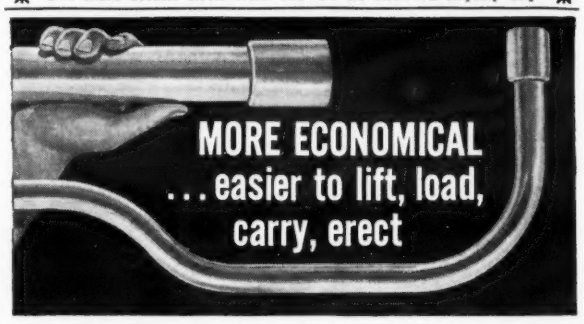
Alcoa Aluminum Joining Materials

■ Welding—IG (Inert Gas) Welding Electrode, Coiled Welding Rod, Straight-Length Welding Rod, Welding Flux ■ Brazing—Sheet, Coiled Brazing Rod, Straight-Length Brazing Rods, Brazing Flux ■ Soldering—Sheet, Solder, Solder Flux

Alcoa distributors and jobbers can give you information on joining aluminum. Additional technical assistance can be obtained from your nearest Alcoa sales office.

ALCOA ALUMINUM
WELDING MATERIALS

For more details circle NED-312 C1 on enclosed inquiry slip



Alcoa Aluminum Electrical Rigid Conduit*

■ Light weight—weighs only ⅓ as much as steel conduit ■ Easy to cut, bend and thread—without special tools ■ Corrosion resistant—no maintenance under normal service conditions ■ Nonsparking for safer installations ■ Competitive in price for initial savings as well as future savings

Available from local distributor or jobber stocks for fast, dependable delivery.

*Approved by Underwriters' Laboratories, Inc.

ALCOA
ROME CABLE
DIVISION

For more details circle NED-313 C1 on enclosed inquiry slip

Quick delivery of any Alcoa Aluminum product on this page from your local Alcoa distributor or jobber!

- Prompt Service
- Fully Stocked Warehouses
- Complete Technical Information

Check Your Yellow Pages
Under "Aluminum"
OR
Mail Coupon for Additional Information

ALUMINUM COMPANY OF AMERICA
859-C Alcoa Building, Pittsburgh 19, Pa.

Please send me the following:

- ☐ ALCOA ALLOY 6262-T9 SCREW MACHINE STOCK FOLDER
- ☐ ALCOA ALUMINUM FASTENERS BROCHURE AND SAMPLES
- ☐ ALCOA ALUMINUM ABRASIVE TREAD PLATE BROCHURE AND SAMPLE
- ☐ ALCOA ALUMINUM ELECTRICAL RIGID CONDUIT BROCHURE
- ☐ ALCOA WELDING AND BRAZING METAL SELECTION CHART
- ☐ "HOW TO DESIGN WELDED ALUMINUM STRUCTURES"

Name _____
Title _____
Company _____
Street Address _____
City _____ Zone _____ State _____

ALCOA ALUMINUM
Distributed Nationally... To Better Serve Your Immediate Needs

No Sissy about SOLVENTS

SILASTIC® LS silicone rubber combines
- Resistance to Fuels, Oils and Solvents
- High Heat Stability
- Low Temperature Flexibility

For FREE BROCHURE on Silastic LS, the Dow Corning fluorocarbon silicone rubber . . .

Write Dept. 5815

first in silicones **Dow Corning CORPORATION** MIDLAND, MICHIGAN

For more details circle **NED-315 C1** on enclosed inquiry slip

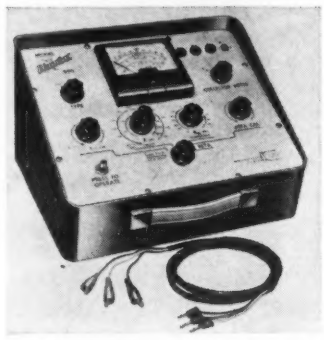
LOOK AT THE FINE POINTS OR YOU'LL MISS THE PAYOFF!

Royal equipment is literally packed with fine points that tailor it to the specific jobs of industry. The Royal Model 515 adjustable chair is typical: contoured, 4-way adjustable back is mounted on strong spring steel to adjust to the slightest body movement. Legs telescope to adjust to most comfortable working height. There's no protrusions to catch clothing or cause injuries. The payoff is worker comfort, efficiency and safety. It's the same with Royal cabinets. All corners are rounded, all hinges and fastenings are concealed. Extra heavy gauge panels are flush finished. Doors are rigid, shelves are adjustable and every cabinet is ventilated. There are dozens of Royal chairs, stools and cabinets for industry. Each is packed with fine points that make it more efficient, more useful, more valuable. Write for full details today. ROYAL METAL MANUFACTURING COMPANY, Dept. 25-C, One Park Avenue, New York 16, N. Y. In Canada—Galt, Ontario.

Royal® INDUSTRIAL EQUIPMENT

For more details circle **NED-316 C1** on enclosed inquiry slip

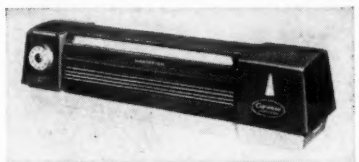
TRANSISTOR TESTER
has accuracy of ±5 per cent



Circuit impedance is neutralized automatically before tests are made with this in-circuit transistor tester. It measures alternating-current beta with an accuracy of ±5 per cent. The transistorized tester measures essential in and out of circuit parameters. Completely self-contained, it has a 9 x 10¾ x 6½-in. steel carrying case. Weight is 7¾ lb, and price is $129.50. • **Hickok Electrical Instrument Co.**, 10514 Dupont Ave., Cleveland 8, Ohio.

For more details circle **NED-317 C1** on enclosed inquiry slip

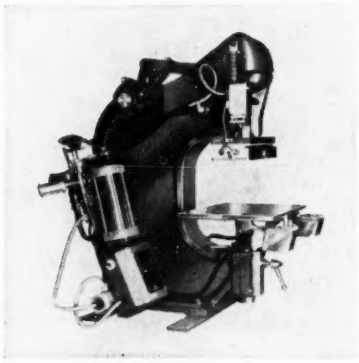
PHOTOCOPIER
copies any length 18-in. wide print



Oversized originals up to 18 in. wide by any length are copied by this Champion 18 photocopier. It will reproduce large drawings, blueprints, plans, charts, ledger sheets, and 16-column paper. It can be used simultaneously by two operators making 8½ x 11-in. copies. Originals can be printed, drawn, or written in ink, pencil, or pen on colored, transparent, translucent, or opaque stock. • **Copease Corp.**, 425 Park Ave., New York 22, N. Y.

For more details circle **NED-318 C1** on enclosed inquiry slip

MULTIOPERATION PRESSES
for embossing, swedging, assembling



Hand lever, direct piston, air impact, and double toggle action air operated types are available in the OlsenMark Power Press line. It includes ½, 3½, and 4 to 7 ton models, suited for such applications as embossing, creasing, heat sealing, swedging, stacking, and assembling. All have square rams for accurate registration, long head strokes for easy set-up and quick feeding, and cast iron C-frames. Heating heads, electric dwell timers, power sliding beds, and turntable feeds are among optional accessories. • **OlsenMark Corp.**, 124-132 White St., New York 13, N. Y.

For more details circle **NED-319 C1** on enclosed inquiry slip

Eastern PORTABLE MIXERS

especially designed for small batch processes

. . . offer precise mixing results with long-term cost savings

Eastern Portable Mixers give dependable, low-cost service in small batch processes. Where fixed mounted installations are not required, Eastern's Portables offer greater versatility, ease of handling, and long-term savings.

Speeds of 420, 1125, and 1725 R.P.M. rated from 1/20 to 3 H.P. are standard. Motors in all standard types can be supplied in open drip-proof, totally-enclosed, or explosion-proof construction.

Write for new Portable Mixer Bulletin 530-N.

EASTERN INDUSTRIES, INC.
MIXER DIVISION • NORWALK, CONN.

For more details circle **NED-320 C1** on enclosed inquiry slip

871B

Improved **FEL-PRO C5-A** "HI-TEMP" ANTI-SEIZE THREAD COMPOUND

delivers MORE dollar value at same LOW COST!

All These New Improvements—
- **NEW** • Lower breaking and running torque
- **NEW** • Non-settling, non-hardening, homogenized composition
- **NEW** • Can be used in below freezing weather
- **NEW** • Increased lubricating and sealing qualities
- **NEW** • Prevents rust and corrosion

Now in tubes and cans

FREE TEST SAMPLE PROVES HOW!

You'll save countless man hours and avoid costly replacement of broken studs, bolts, etc., with the protective cushioning action provided by the colloidal copper composition of C5-A. Improved C5-A Lubricates and Seals for fast, easy application and removal. Gives same protective performance even after high-pressure, high-temperature use, up to 1800° F. Can be used on all metals and plastics.

FELT PRODUCTS MFG. CO.
Dept. 68, 7450 N. McCormick Blvd., Skokie, Illinois

- ✓ Ends seizing and galling even up to 1800° F.
- ✓ Reduces wrench torque
- ✓ Stops needless stud breakage
- ✓ Permits repeated re-use
- ✓ Speeds assembly and disassembly
- ✓ Prevents galling of stainless steel

TRY C5-A NOW . . .

Manufacturers, refiners, and power producers find C5-A ideal for boilers, face plate studs, etc. Write for your free test sample today!

For more details circle **NED-321 C1** on enclosed inquiry slip

THE "PERFECT" SLING IS BRAIDED!

MACWHYTE ATLAS SLINGS

Macwhyte Atlas Slings are braided to provide a perfectly balanced sling — extra flexible, lightweight, kink-resistant, load hugging, easily handled. Available in a wide variety of types, sizes, and fittings. Ask for Sling Bulletin 5308R. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin, U.S.A.

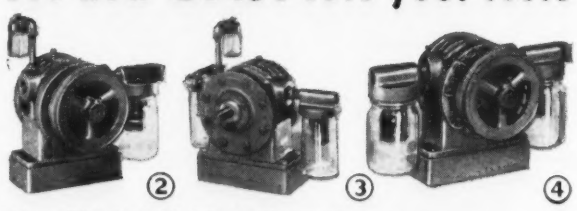
214

MACWHYTE *Wire Rope* **COMPANY**

For more details circle **NED-322 C1** on enclosed inquiry slip

Need an original equipment VACUUM PUMP?

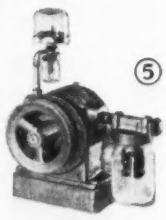
See how GAST cuts your costs



Above (1) is basic Model 1550 Vacuum Pump—(one of 13 sizes). For active customers, Gast builds this model in dozens of variations. Specific needs are met for vacuum, pressure, lubrication, drive and type of service.

For example, (2) is equipped for general purpose vacuum. (3) provides both vacuum and pressure for paper feeding. (4) oil-less model has carbon vanes; never needs oil. (5) has new constant level oiler for rigorous industrial duty.

You save because Gast *ingenuity* and *tooling and manufacturing efficiency* permit high quality at production prices.



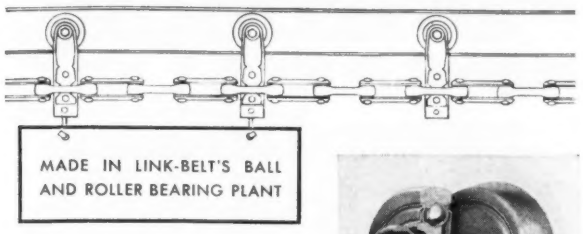
WRITE FOR FULL DETAILS—REQUEST CATALOG

Gast Manufacturing Corp., P. O. Box 117-R, Benton Harbor, Mich.

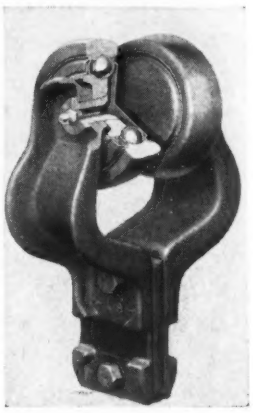
GAST ROTARY • AIR MOTORS TO 7 H.P. • COMPRESSORS TO 30 P.S.I. • VACUUM PUMPS TO 28 IN. "Air may be your answer!"

For more details circle **NED-323 C1** on enclosed inquiry slip

LINK-BELT conveyor TROLLEYS



MADE IN LINK-BELT'S BALL AND ROLLER BEARING PLANT



Trolleys are only as good as their bearings. That's why Link-Belt trolleys are *MADE IN A BEARING PLANT BY BEARING SPECIALISTS.*

Simple and rugged, Link-Belt ball-bearing trolleys maintain rolling contact in all positions . . . create minimum power demand . . . give long, trouble-free service.

Available in 2- or 4-wheel types, riveted or bolted, for 3-, 4- or 6-in. I-beams.

NEW TROLLEY BOOK 2636 is now available. Send for your copy today!

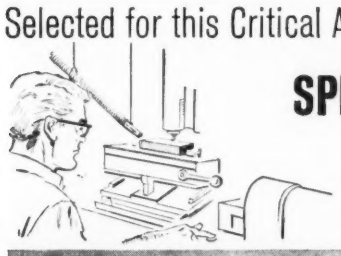
LINK-BELT

BALL BEARING CONVEYOR TROLLEYS

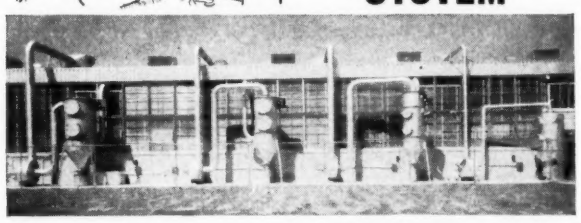
LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill. 15,008

For more details circle NED-324 C1 on enclosed inquiry slip

Selected for this Critical Application*



SPENCER VACUUM SYSTEM



*Recognizing the dangers in machining beryllium, Speedring Corp., manufacturers of high precision beryllium instrument parts, specified Spencer vacuum systems which provide:

PRESSURIZED PICKUP—High velocity hoods are tied in to the vacuum system wherever dust is created.

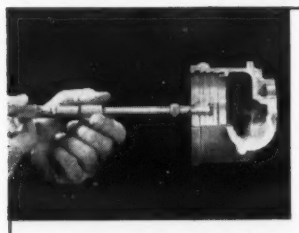
COMPLETE CONTAINMENT—Chips and dust are carried off through a "sealed" system.

100% SEPARATION—Spencer's positive action centrifugal separators are arranged to assure **complete** removal of any toxic traces before air is exhausted.

Request catalogs No. 155B, "Spencer Vacuum" and No. 143B, "Pneumatic Conveying".

The **SPENCER** TURBINE COMPANY HARTFORD 6, CONNECTICUT

For more details circle NED-325 C1 on enclosed inquiry slip



New micrometer can measure internal lands and grooves to ± .0005" ...on the machine!

Now, for the first time, you can measure internal lands and grooves, O-ring widths, retaining ring grooves, keyways, and cylinder grooves simply *and accurately.* The new Multi-Mike* internal groove micrometer operates just like any conventional micrometer. Easy-to-read Starrett micrometer head has graduations in thousandths of an inch. Multi-Mike can reach into, and measure, bores as deep as 5¾"; the two standard models fit holes down to ½" or ¼" diameters. The Multi-Mike measures groove widths from .050" to 1.050" and lands from 0 to 1.000". And this amazing new internal micrometer can do all this while the piece is still on the machine!

Multi-Mike produces higher quality work with lower cost set-ups and fewer rejections . . . gives you greatly reduced inspection and quality control costs. Write today for free literature.

*TRADEMARK; PATENT PENDING

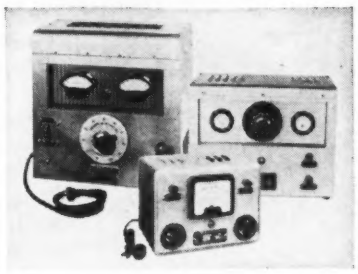
Multi-Mike Micrometer is another invention marketed by:

NAVAN INVENTION MARKETING NATIONAL SALES

NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
900/P North Sepulveda
El Segundo, California

For more details circle NED-326 C1 on enclosed inquiry slip

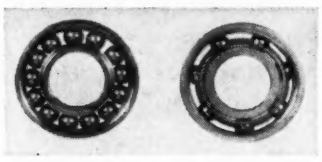
ELECTROPLATING POWER UNITS
5, 10, and 50-amp units offered



Plating operations from quantity production to customized experiments are handled by three electroplating power units. The 5, 10, and 50-amp units will electroplate copper, cadmium, nickel, chrome, brass, silver, and gold by both tank and brush methods. Units operate from 110-120 v single-phase ac and have continuous-range auto transformers for infinite current and voltage control, plus overload and short circuit protection. Units are totally enclosed in heavy gage steel cabinets with silver hammertone finish. • **Warner Electric Co.**, 1512 W. Jarvis Ave., Chicago 26, Ill.

For more details circle NED-327 C1 on enclosed inquiry slip

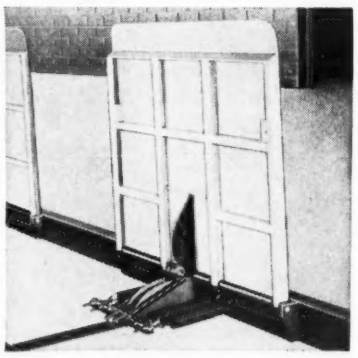
CORROSIONPROOF BEARINGS
will operate at high temperatures



Excellent corrosion resistance coupled with high hardness enable Haynes Alloy 25 ball bearing to operate at temperatures to 1000° F. It is usable without need for sealing it from heat or corrosion. It is a 1⅛-in. OD by ½-in. bore, deep groove, full complement, no loading slot bearing. It is also available with a one-piece retainer and with shields. • **Industrial Tectonics, Inc.**, 18301 Santa Fe Ave., Compton, Calif.

For more details circle NED-328 C1 on enclosed inquiry slip

MECHANICAL LOADING RAMP
6 x 6-ft model supports 6 tons



Simple cam and spring mechanism floats the Rite-Hite Model 666 mechanical loading ramp up or down with only slight manual effort. Installed in truck loading docks, ramp is built for continuous medium - duty service with no maintenance. Platform swings up to vertical position, allowing overhead doors to close in front of it. The 6-ton capacity unit has a 6 x 6-ft platform. • **Loomis Machine Co.**, Dept. 7, Clare, Mich.

For more details circle NED-329 C1 on enclosed inquiry slip

Colonial Develops SPECIAL RUBBERS

FOR *Tough* INDUSTRIAL APPLICATIONS

CONSULT OUR ENGINEERS ON YOUR RUBBER PARTS PROBLEMS AT NO OBLIGATION

The Colonial Rubber Company has the experience, the technical staff, and the facilities to meet your *special* requirements in industrial rubber parts. Our service is fast, efficient and precise for three important reasons:

Colonial Operates Its Own
- **RUBBER RESEARCH LABORATORIES**
- **DIE-MAKING MACHINE SHOP**
- **PARTS PRODUCTION PLANT**

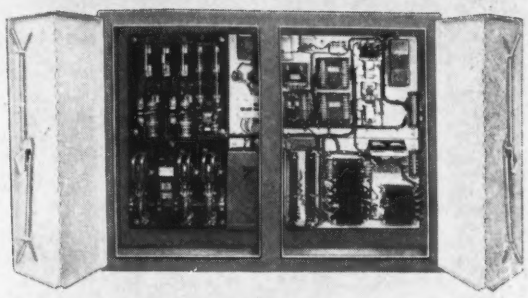
Send for Free Illustrated Booklet

Contains complete details on Colonial's custom rubber compounding and molding . . . shows *why* manufacturers can use this service to advantage. 2300

Colonial Rubber Co.
Ravenna, Ohio

For more details circle NED-330 C1 on enclosed inquiry slip

PRECISION HANDLING OF ALL LOADS with new EC&M AC STATA-Hoist Control



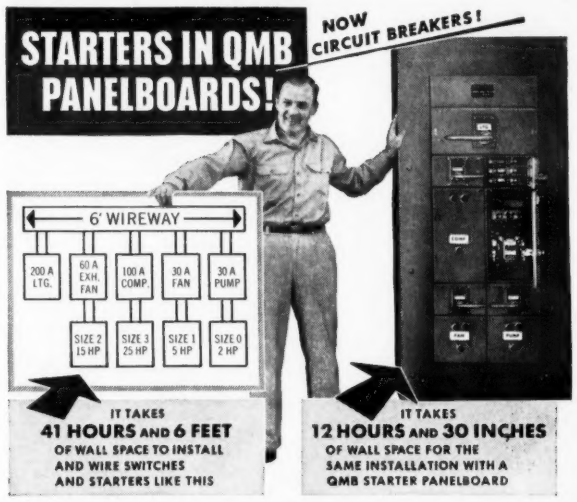
- **STEPLESS CONTROL** —with fast response over entire speed range
- **FLOAT CONTROL** —for pinpoint control at slow speeds
- **STATIC COMPONENTS** —for reliable operation and minimum maintenance

Write for Bulletin 6401 • Square D Company, EC&M Division, 4500 Lee Road, Cleveland 28, Ohio

SQUARE D COMPANY
EC&M DIVISION • CLEVELAND 28, OHIO
wherever electricity is distributed and controlled 5352

For more details circle NED-331 C1 on enclosed inquiry slip

STARTERS IN QMB PANELBOARDS! NOW CIRCUIT BREAKERS!



NOW—circuit breaker units, (enclosed plug-in type) interlocked with starters, provide matchless versatility for Square D motor starter panelboards. Twin-type 100A frame and single-type 225A frame units are specially designed to fit *anywhere* on your QMB panelboard. You can combine starters and QMB circuit breakers or QMB switches into one compact panelboard.

Write for Bulletin SD-80R. Square D Company, Mercer Road, Lexington, Kentucky

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-332 C1 on enclosed inquiry slip

ONLY SQUARE D STARTERS WITH ONE-PIECE OVERLOAD RELAYS GIVE ABSOLUTE PROTECTION!

Write for the complete story on Square D Starters...

plus this simple 3-minute "JIG-SAW" demonstrator

Write Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-333 C1 on enclosed inquiry slip

"Sure-Flex" Couplings 4-way flex is . . .

. . . A "SURE CURE" FOR SHOCK, VIBRATION, SHAFT MISALIGNMENT

Unique design and 4-way flex enable Wood's "Sure-Flex" Couplings to absorb not only all types and combinations of misalignment and end-float . . . but up to 15 times more shock and vibration than other leading flexible couplings. Only four basic, easily installed parts. No clamps or screws. No wear, no lubrication or maintenance. Unaffected by abrasives, dirt or moisture. Operation is noiseless. WRITE FOR BULLETIN 5103.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

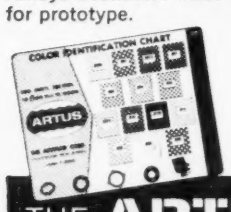
For more details circle NED-334 C1 on enclosed inquiry slip

NEW THE COLOR TELLS THE THICKNESS

ARTUS **100 SHIMS** THIS SIZE

Send blueprint for shape required. Special tooling, first order only $9.75.

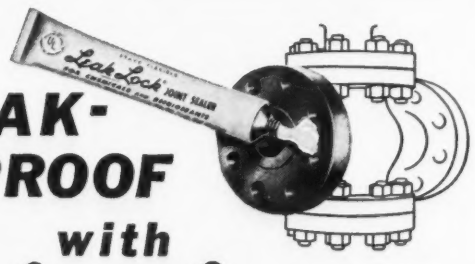
Real time savers in production and maintenance. Used by thousands including America's best known companies. More efficient, more convenient. Always available. Ideal for prototype.



FREE — Handy COLOR CHART, also samples and literature. Write today!

THE **ARTUS** CORPORATION
201 S. Dean St. • Englewood, New Jersey
LOwell 7-0900

For more details circle NED-335 C1 on enclosed inquiry slip



LEAK-PROOF with Leak Lock®

SPECIFIED IN HUNDREDS OF APPLICATIONS... WORKS WHERE OTHER COMPOUNDS FAIL!

Don't take chances—seal all joints, flanged or threaded with Leak Lock—won't contaminate—contains no lead—withstands solvent action—*excellent adhesion.*

Leak Lock won't freeze joints or heat spontaneously—remains unaffected by shock or vibration. Keeps mating surfaces corrosion free.

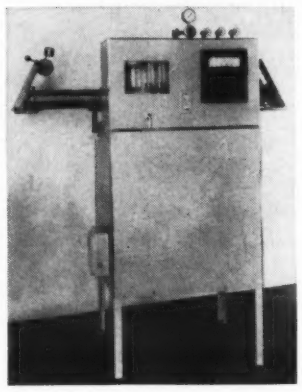
Sold in 4-oz. applicator cans, 1⅓ oz. squeeze tubes—pint and 10-lb. containers. Write today for: ***FREE SAMPLE TUBE***

Listed by Underwriters' Laboratories for gas, oil, propane and butane equipment.

HIGHSIDE CHEMICALS INCORPORATED
14 Colfax Avenue • Clifton, N. J.

For more details circle NED-336 C1 on enclosed inquiry slip

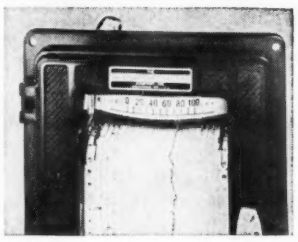
CONTROLLED ATMOSPHERE FURNACES utilize rapid heating thermal tubes



The metal thermal tube used in line of controlled atmosphere furnaces is itself the heating element, acting as a resistive load across the secondary of a heavy duty transformer. Furnaces reach 1200° C in less than 10 min and cool to 80° C in about the same time. They are equipped with gravity-sealed, counterbalanced sliding doors with mica viewing ports. A fire curtain automatically turns on or off as doors are operated. Either single or mixed gases, or air can be selected for the muffle atmosphere which is either dry or humidified. The packaged units range from 2⅞ to 5¾-in. diameter capacity and operate on 220 or 440-v single-phase current. Prices range from $3355 to $5975. • **Stewart Engineering Corp.**, 467 Bean Creek Rd., Santa Cruz, Calif.

For more details circle NED-337 C1 on enclosed inquiry slip

GRAPHIC RECORDER six-pen unit accommodates any data expressed as voltage or current



This versatile Analog-Event recorder will accommodate any data which can be expressed as alternating or direct-current voltage or current, as well as watts, kilovolt-amperes, pressure, speed, or vacuum. Typical uses are simultaneous measurement of bus voltage and breaker operation, pipe line pressure and valve operation, rate of production and feeder conveyor operation, light intensity, and operation of photo cells.

Analog and event data are recorded on a single 6-in. wide strip chart, with analog information in the center 3 in. and event information on the margins. The six-pen unit is housed in a case measuring only 16 x 10¾ x 11 in. Price is $525 to $600, depending upon specific requirements. • **Esterline-Angus Instrument Co.**, 1201 Main St., Speedway, Ind.

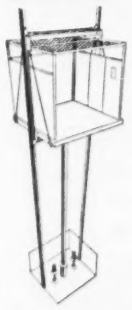
For more details circle NED-338 C1 on enclosed inquiry slip

Aluminum Electrical Fittings

Appleton Electric Co.—Low copper content of the aluminum electrical fittings described and illustrated in Bulletin AL-60 enables them to resist electrolytic action when used with ferrous alloy or dissimilar metals. Included are specifications, illustrations, and prices for Unilets, receptacles, lighting fixtures, and accessories.

For more details circle NED-339 C1 on enclosed inquiry slip

SAVE UP TO 25% ON ELEVATOR COSTS



Using dependable hydraulic power, Rotary Oildraulic Elevators operate with maximum efficiency. Power is applied directly to the load . . . no lost motion or wasted energy. The elevator car is supported by a powerful hydraulic jack, eliminating the need for heavy load-bearing shaftway and overhead machinery. Capacities to 100,000 lbs. Installed and serviced by a nationwide organization. Write for catalogs.

ROTARY OILDRAULIC® ELEVATORS

Rotary
Rotary Lift Company
Division of Dover Corporation
1022 KENTUCKY • MEMPHIS 2, TENN.

For more details circle NED-340 C1 on enclosed inquiry slip

PERFECT PROTECTION FOR ELECTRICAL CONTROLS

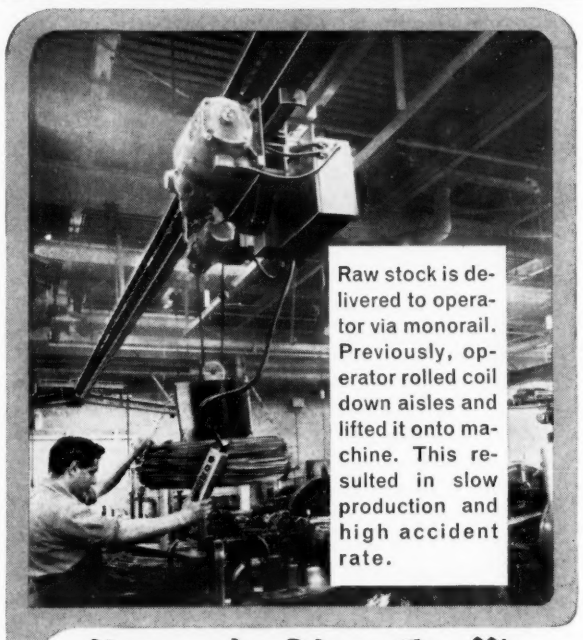
Oil, Water and Dust can't Penetrate!

McKINSTRY JIC Wiring Boxes provide complete protection against seepage of oils, dust, dirt or water, whether they are installed indoors or outdoors. For dependable performance, look for the McKINSTRY trademark before you buy. You can pay more, but you can't buy better quality JIC Wiring Boxes.

Write: Dept. 20-R for new illustrated catalog and price list on complete line of McKINSTRY Enclosures and Fittings.

MMMW **McKINSTRY METAL WORKS, INC.**
285 McKinstry Ave. • Chicopee, Massachusetts

For more details circle NED-341 C1 on enclosed inquiry slip



Untangle Plant Traffic With Monorail

Clear the aisles for production . . . use monorail for materials handling. Suspended from the ceiling, a Louden Monorail Handling System removes traffic from the floor, saves floors for production. Not only does this untangle plant traffic, but also increases plant capacity and becomes a big factor in cutting cost of floor maintenance.

A Louden Monorail Handling System moves raw stock, semi-finished and finished products over the heads of men and machines, and its exceptional flexibility makes it ideal for all types of handling requirements. It can transport materials from point to point anywhere in your plant, either piloted by an operator or completely unattended. Materials can travel from floor to floor, building to building, opening and closing doors, pass through one processing stage after another, and even load and unload its own carriers with certain classes of materials.

When you have material handling requirements, call on Louden, the pioneer of monorail handling. Benefit by Louden's unequalled experience and broad array of service-proven equipment. Most Louden installations pay for themselves in months; some have done so in a matter of weeks.

Write today for "COST-CUTTING WITH MONORAIL AND CRANES" . . . 52 pages of illustrated applications, industry by industry.

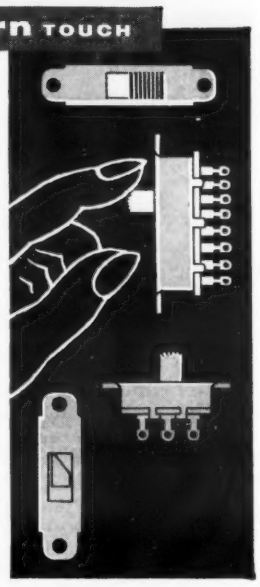
Louden MONORAIL & CRANES

THE LOUDEN MACHINERY COMPANY
312 Court, Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems Inc.
SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

For more details circle NED-342 C1 on enclosed inquiry slip

STACKPOLE S-L-I-D-E SWITCHES

FOR THE Modern TOUCH



Inexpensive . . . easy to use . . . these tiny, dependable switches bring new operating convenience and sales appeal to modern electrical products. They're available in over 15 basic types—the most complete line — with ratings and features to match your requirements.

- ½- to 6-amp. U.L. Ratings
- 9 Attractive Knob Colors
- 1 to 4 Positions
- 1 to 3 Poles
- Maintained or Momentary Contact
- Pushbutton-operated Types
- Lug or Printed Wiring Terminals

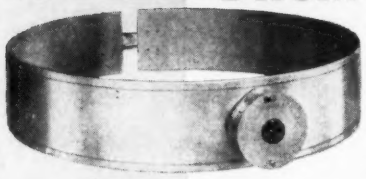
Iow cost SNAP SWITCHES

Sturdy, low-cost snap action switches for pushbutton assemblies, record players, etc. 1-6 amp U.L.I. ratings.

For Details, write, *Electronic Components Division*
STACKPOLE CARBON CO., St. Marys, Pa.

For more details circle NED-343 C1 on enclosed inquiry slip

ACRA ELECTRIC DRUM HEATER



MELTS *Speeds up* SLOW FLOW MATERIALS

• RESINS • WAXES • OILS • GREASES
MOLASSES—TARS—MANY OTHERS

SAVES TIME, MONEY, MATERIAL

Turns solid or slow flow materials into smooth flow liquids, quickly and completely emptied from their drums. Quick, easy, tight gripping on-off assured by spring actuated toggle clamp. 3 heat selector switch. Heaters used 1 or more to a drum.

55 GAL. Drum Heater #RH-1, shipping weight 10 lbs. $29.50

5 GAL. Drum or straight sided Pail Heater #PH-5—S/W 5 lbs. $16.75

FOB Chicago

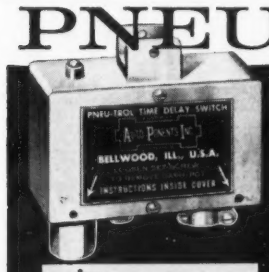
PAYS FOR ITSELF IN HOURS PAYS PROFITS FOR YEARS!

AC/DC Models for 3000 watts, 230 volts or 2500 watts, 115 volts. 5" aluminized steel heater band. Long life nickel-chrome heating element. Fully guaranteed against defects in material or workmanship.

ORDER DIRECT FROM
ACRA ELECTRIC CORPORATION
9907 Pacific Ave. • Franklin Park, Ill.

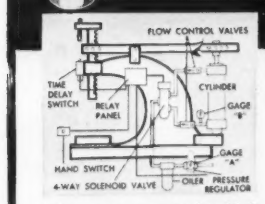
For more details circle NED-344 C1 on enclosed inquiry slip

PNEU-TROL



AUTOMATION TIME DELAY SWITCH

FOR CONTROLLED TIME DWELL OF AIR OR HYDRAULIC CYLINDERS



- Holds dwell accurately to fraction of second
- Automatically re-sets
- Designed for millions of actuations

Arbor press converted to high production power press, using double end cylinder, Time Delay Switch, Flow Control Valves, and related equipment, Flow Valves permit independent ram speed adjustment in both directions. Differential pressure between "A" and "B" gages caused by throttling effect of Flow Control Valve creates time interval in working pressure build-up, which is compensated for by Time Delay Switch setting. This insures consistently accurate working pressure on the ram.

Pneu-Trol Time Delay Switch will hold any cylinder controlled motion or operation at a positive stop on either end of the stroke for ¼ to 60 seconds in 20 to 1 ratios. Simple, easy to adjust. Automatically re-sets after each actuation. Positive, controlled time dwell permits wider use of air or hydraulic power in automatic operations, increases accuracy of work by insuring split-second accuracy of time dwell. Available with many thrust linkages for left and right, down, up, or horizontal thrust. Write for Special Bulletin TDS-59

AUTOMATION AUTO-PONENTS INC. COMPONENTS 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

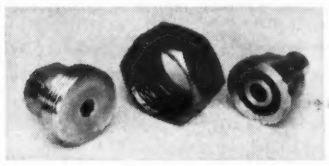
For more details circle NED-345 C1 on enclosed inquiry slip

HOLE SAWS
5/8 to 2½-in. sizes offered

Two or more layers of wood, metal, plastic, or composition board can be penetrated by Star Speedicut hole saws offered in ⅝ through 2½-in. sizes. They cut up to ⅞ in. deep. Saws adapt to electric drills, lathes, and drill presses, and all have knock-out holes for quick removal of cores. The ⅝-in. unit has a built-in mandrel, whereas other sizes are interchangeable with mandrels of various makes. • **Clemson Bros., Inc.**, 22 Cottage Ave., Middletown, N. Y.

For more details circle NED-346 C1 on enclosed inquiry slip

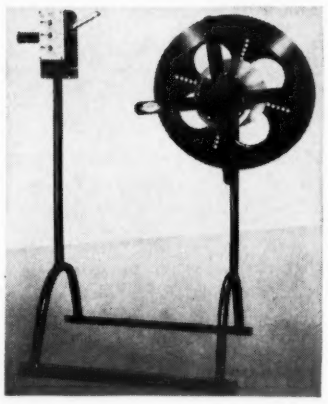
HIGH PRESSURE FITTINGS
sizes for both tube and pipe



O-ring static seal type fittings for leakproof water-oil-gas service at 6000 psi need only to be hand tightened for use from —20 to 275° F. Sizes range from ¼ to 2½ in. in both tube and pipe sizes for tail-pieces and mating thread pieces. They are made in stainless steel or other material upon request in female pipe, male pipe, and socket weld (both OD tube and IPS) configurations, and to MS 33514, AND 10050, and AND 10056 specifications with union nuts to match. • **Kahn & Co.**, Box 516, Hartford 1, Conn.

For more details circle NED-347 C1 on enclosed inquiry slip

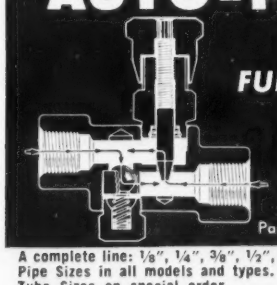
WIRE METER & TAKE-UP REEL
both units welded to one frame



One welded steel frame supports both the Hykon cable meter and take-up reel in this Model TUMS wire measuring unit. It can be used as a portable unit, or lagged to the floor for permanent installation. Meter takes wire, rope, and other flexible materials up to 1 in. diameter. It accurately registers up to 1000 ft and has instant reset to zero. Up to 1500 ft of No. 14 wire can be coiled on the tapered cone of the 18¾-in. diameter, 7-in. wide take-up reel. Outer spokes slip off for removal of wire. All parts are finished in black enamel. • **Hykon Mfg. Co.**, Box 923N, Alliance, Ohio.

For more details circle NED-348 C1 on enclosed inquiry slip

AUTO-PONENT® HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841, 174

A complete line: ⅛", ¼", ⅜", ½", and ¾" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

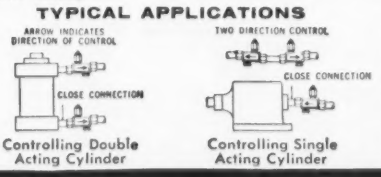
Model F Standard Flow Control Valve or Model N Needle Valve

Model KF Knob and Dial Flow Control Valve or Model KN Needle Valve.

Model PF Knob and Dial Flow Control Valve or Model PN Needle Valve for panel mounting.

Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS



Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTOMATION AUTO-PONENTS INC. COMPONENTS 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle NED-349 C1 on enclosed inquiry slip

VERSATILE GENERAL ELECTRIC DRUM SWITCH

General Electric's CR102 Reversing Drum Switch is your best method for reliable, inexpensive manual control of single-speed motors up to two hp, 600 volts ac. This durable switch has many convenience features to save installation and modification time. For instance, no tools needed to change from maintained to spring-return contact. And operators like the "positive feel" of this compact unit. Typical applications are woodworking, metalworking, and materials handling equipment.

FREE PUBLICATION — Ask your G-E Representative for Publication GEA-7000 or write to Section 813-35, General Electric Co., Schenectady 5, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

For more details circle NED-350 C1 on enclosed inquiry slip

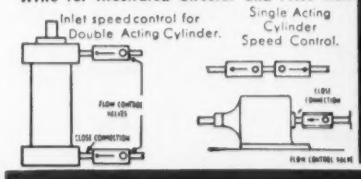
For more details circle NED-351 C1 on enclosed inquiry slip

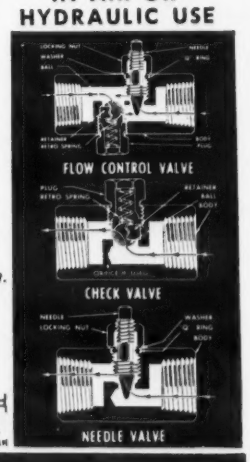
Get Easier, More Accurate Cylinder Speed Control with Pneu-Trol® VALVES IN AIR OR HYDRAULIC USE

2,000 (brass or aluminum) and 5,000 (steel) p.s.i.

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

Write for Illustrated Circular and Price List.





AUTOMATION AUTO-PONENTS INC. COMPONENTS 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle NED-352 C1 on enclosed inquiry slip

Don't throw maintenance money away!

NoDrip TAPE PERMANENTLY PROTECTS AGAINST CONDENSATION AND RUST AT LOWEST COST.

Any maintenance man can check this. Handy 16' rolls of ¼" thick NODRIP TAPE fits any size pipe or fitting. Never absorbs moisture. *Permanently* insulates against damaging pipe sweating—even around unions, tees, angles and valves.

NoDrip PLASTIC COATING

Another fine Mortell product. Use on metals, concrete, brick, tile, plaster surfaces. Apply by brush, trowel or spray to large pipes, tanks, walls, ceilings, air ducts, to eliminate sweating. 1 or 5 gal. cans or 55 gal. drums.

At all leading hardware, mill supply and plumbing jobbers. For full information and technical handbook, write

Mortell COMPANY
526 Burch Street, Kankakee, Ill.

For more details circle **NED-353 C1** on enclosed inquiry slip

Meet this specification with a safety factor of... 8

agreement between purchaser and supplier.
2.1.5 Print Position, Side-to-Side
Maximum variation of the distance from the line of center of the bag to a reference point on the imprint shall not exceed ±1/8".
1.6 Print ... Top-to-Bottom

with GPE Controls
WEB GUIDES

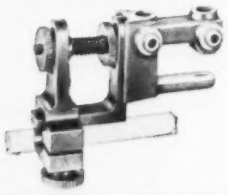
National Flexible Packaging Association specifications for printed bags call for print position variation to be within ⅛". You can meet and beat this specification *with a safety factor of 8 or more*—with Web Guides by GPE Controls!

Photoelectric line guiding for slitters and bag-making machines—and web edge guide for flexographic and gravure presses—help hold specs with *minimum stock size* and *minimum waste*. Practical on-press slitting with assured quality and accuracy.

Unlimited power through hydraulic operation—with either photoelectric or patented non-clogging pneumatic sensing—any web speed—any web width—corrective action by roll shifting or by steering rolls.

You can guide any paper, film, foil, or fabric web better with GPE Controls non-contact web guiding systems. Choose from 43 models for any application.

Photoelectric sensing for edge or printed line



Patented non-clogging pneumatic sensing for web edge

FREE Bulletin EG84 describes 43 GPE Controls Web Guide models.

Send for your copy today!

GPE Controls | GD

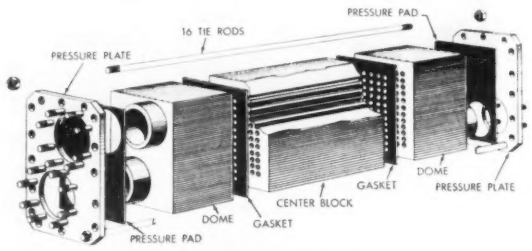
Subsidiary of GENERAL PRECISION, Inc.

GPE Controls, Inc. • 258 E. Ontario Street • Chicago 11, Ill.

For more details circle **NED-354 C1** on enclosed inquiry slip

GRAPHITE HEAT EXCHANGER handles corrosive liquids and gases

Made of Karbate impervious graphite, Type CFB heat exchanger provides true counterflow. Only graphite is contacted by fluid flow on both sides of transfer



TYPE CFB HEAT EXCHANGER

surface. Therefore, it can be used for heat transfer between corrosive liquids and gases as well as for the more conventional heating or cooling of corrosive solutions with water or steam. It is stocked in one, three, and five-pass models with equal or unequal areas and numbers of passes on each side. The number of 24-in. long center blocks can be varied from one to six to obtain heat transfer area from 35.2 to 176.7 sq ft. Equipment can operate at pressures to 100 psi and temperatures to 338° F. • **National Carbon Co.**, 270 Park Ave., New York 17, N. Y.

For more details circle **NED-355 C1** on enclosed inquiry slip

REGULATED POWER SUPPLIES output currents of 0.25, 0.50 amp available in three configurations

Two compact regulated power supplies are similar in performance characteristics except for output current which is 0.25 amp in the Model 170 and 0.50 amp in

Model 171. Both have voltage outputs variable from 10 to 32 v with regulation better than 3 mv, line or load. Ripple is less than 250 microvolts rms.

Three configurations are offered: Bench model with front panel off-on switch, calibrated output voltage control, and ¾-in. spaced binding posts; plug-in version with standard octal plug for chassis mounting, screwdriver adjustment for output voltage, and remote programming provision; and a model with a terminal strip for input and output connections and screwdriver adjustment of output. All have short circuit and overload protection. Model 170 measures 3 x 4 x 5 in. and costs $98. Model 171 is 3½ x 5 x 5½ in. and costs $123. • **Quan-Tech Laboratories, Inc.**, 60 Parisippany Blvd., Boonton, N. J.

For more details circle **NED-356 C1** on enclosed inquiry slip

Careless Smoking is a Universal Problem!

Promote Good Housekeeping
Prevent Fire Hazards
Reduce Maintenance

Model 4J-R Duo-Tone With R-G Sign

WHEREVER A SMOKING PROBLEM EXISTS, THERE IS A SIPCO MODEL THAT EXACTLY FITS THE NEED.

SIPCO smokers are constructed of heavy-duty cast aluminum—Built for a lifetime of hard use. OVER 20 DIFFERENT MODELS, include MIDGET size, STANDARD size and JUMBO size. WALL models, FLOOR STAND models and PERMANENT MOUNTING models. DELUXE bright polished finish—or DUO-TONE finish (Grey crinkle canister with satin finished lid.)

Model 4J Deluxe

MODEL 4J DELUXE (Illustrated) JUMBO size permanent mounting type with bright polished DELUXE finish. Glass fiber inner-liner is furnished.

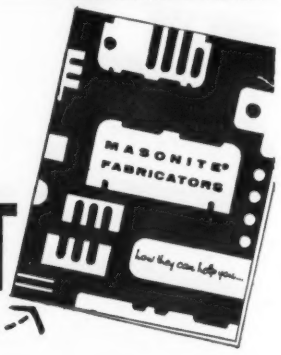
MODEL 4J-R DUO-TONE (Illustrated) JUMBO size permanent mounting type, with sign. Wide variety of sign wording available. Glass fiber inner-liner furnished.

WRITE FOR ILLUSTRATED BROCHURES

STANDARD INDUSTRIAL PRODUCTS CO.
DEPT D • 3527 FARMINGTON RD. • PEORIA, ILLINOIS

For more details circle **NED-357 C1** on enclosed inquiry slip

FREE BOOKLET



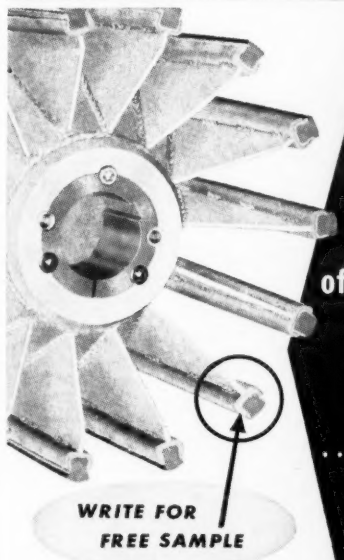
shows how to save money where you're now spending it

This booklet prescribes new avenues to economy with components fabricated of Masonite® hardboard...drops plenty of cost-cutting hints on how you can work with these versatile panel parts. Also describes the services of Masonite's versatile fabricators—tells how they saw, punch, drill, bend, shape and apply a finish to Masonite panels—all to your exact specifications. Learn about our design and engineering services and our die shop facilities. Write for your free booklet today. Masonite Corporation, Dept. NED-3, Box 777, Chicago 90, Ill.

MASONITE *shows the way*

®Masonite Corporation—manufacturer of quality panel products for building and industry.

For more details circle **NED-358 C1** on enclosed inquiry slip



NOW!
• Positive Cleaning Action
• Less Wear of Conveyor Belts
AT THE
DRIVE ..... END
with the NEW
"RUBBER LAGGED"
TURN-CLEAN® PULLEY

WRITE FOR FREE SAMPLE

... And Full Information on How to Solve Difficult Drive Pulley Problems

VAN gorp MFG., INC. Dept. NED Pella, Iowa

For more details circle **NED-359 C1** on enclosed inquiry slip

BIRD DAMAGE USED TO COST MILLIONS

NEW MARK IX
BIRD REPELLER
360° REVOLVING LIGHT BEAMS
rout birds in warehouses, graneries, hangers, plants

Damage to steel, grain, plant equipment and warehoused goods totals millions of $$$ annually. NOW it's easy and inexpensive to get rid of birds for good . . . *results guaranteed!* Designed especially for indoor use, the MARK IX flashes 200 intense alternate-color beams per minute. Pounding light beams and frightening shadows chase the birds—prevent nesting and feeding. Corrosion-proof, lifetime housing; 115 V or 220 V; 1500 hour bulb; easily installed.

Write for free literature

TRIPP LITE
Famous Since 1922
Division of TRIPPE MFG. CO.
133 N. Jefferson St., Dept. NED, Chicago 6

For more details circle **NED-360 C1** on enclosed inquiry slip

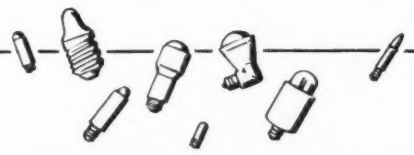
Belleville Springs

Where range of deflection is limited and loads are heavy, belleville washers may have the answer for you. Can be stacked in series, parallel, or in combination. Can also be made to exert constant pressure. For information and helpful design pointers, send for booklet "Belleville Springs."

Associated Spring Corporation
General Offices
Bristol, Connecticut

8827

For more details circle **NED-361 C1** on enclosed inquiry slip



MINIATURE LAMPS

New catalog shows sizes and electrical characteristics of 14 types

Miniature lamps designed by us for medical instruments and industrial inspection lights. Hundreds of other uses for these brilliant, durable lamps with their exceptionally clear, shadow-free light. New catalog shows each in actual size, gives essential dimensions and electrical characteristics of each.

FREE — WRITE FOR IT TODAY

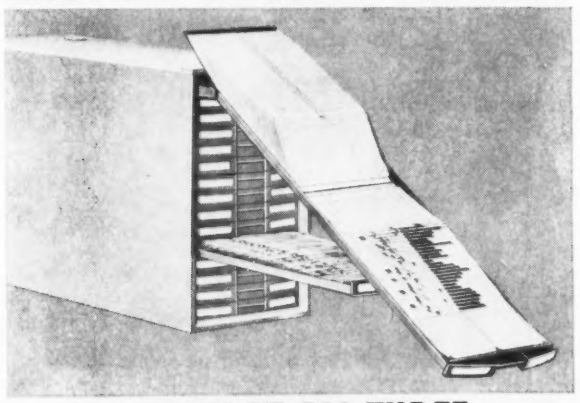
Welch Allyn, Inc., 10 Jordan Rd., Skaneateles Falls, N. Y.

Same catalog shows complete line of Welch Allyn inspection lights, battery handles, transformers. Get your copy now.

WELCH ALLYN LIGHTS THE WAY

For more details circle **NED-362 C1** on enclosed inquiry slip

ANOTHER WASSELL PRODUCT



LOOK AT ALL THREE

You'll find these exclusive advantages in Wassell Visible Sig-Na-Lok:

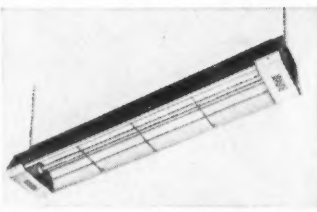
- Superior accuracy because signals lock in place — won't cause mistakes.
- Quicker alphabetical changes — because pockets **snap** out, **snap** in.
- Longer pocket life because pockets are bound full width — never tear.

Wassell Visible Sig-Na-Lok streamlines your records on inventories, maintenance schedules, personnel.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

For more details circle **NED-363 C1** on enclosed inquiry slip

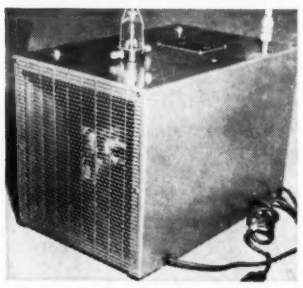
INFRARED HEAT UNITS
spot heat areas, workers



Radiant, sun-like heat emitted by Quartz-Ray infrared heating fixture warms only those areas or workers upon which rays are directed. Unit looks like a fluorescent lamp, is hung from the ceiling, and has no moving parts or starters. The 1000 and 1500-w sizes are available in 120 and 240-v ratings, whereas 2000, 3000, and 4000-w units are rated 208 or 240 v. All units are UL-approved. • **Seaboard Products Corp.**, 191-3 Frelinghuysen Ave., Newark 8, N. J.

For more details circle **NED-364 C1** on enclosed inquiry slip

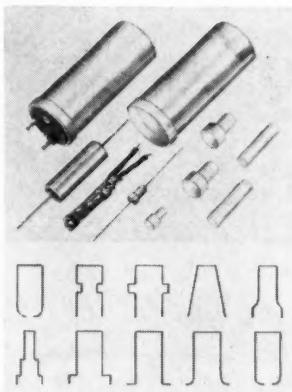
HEAT EXCHANGER
removes 12,000 Btu/hr from liquid



In continuous use with 100° F ambient air and 180° F inlet water temperature, this packaged heat exchanger is rated 12,000 Btu/hr. This compact unit consists of a 1.25-gpm pump with up to 100-psi discharge, 1.5-gal reservoir, 115-v ac fan-pump motor, radiator coil, flow indicator, and fittings. Provisions are made for ⅝-in. OD copper or aluminum tube to be connected to the pressure side. • **Strong Electric Corp.**, 684 City Park Ave., Toledo 1, Ohio.

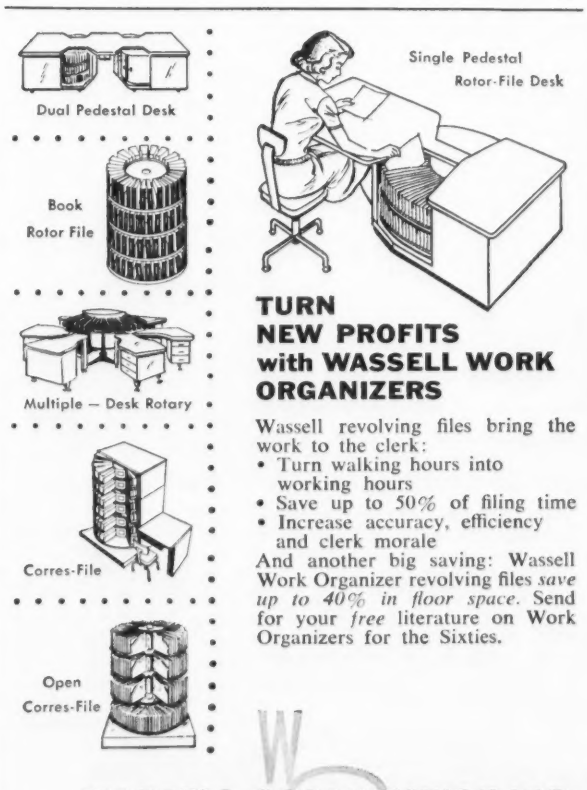
For more details circle **NED-365 C1** on enclosed inquiry slip

MYLAR JACKETS
insulate various electric parts



Available in practically any shape or size, Mylar jackets are suited for hermetic sealing on production lines or automated assembly operations. They are fabricated from Mylar film laminated to polyethylene so that they can be shrunk or expanded without breaking down the structure. They actually flow to make a firm bond and prevent separation. They can be used on capacitors, coils, screws, and other parts requiring protection against electrical effects or corrosion. Normally transparent for product identification, they can also be color striped for coding purposes. • **Precision Paper Tube Co.**, Dept. ND-5, 2035 W. Charleston St., Chicago 47, Ill.

For more details circle **NED-366 C1** on enclosed inquiry slip



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- Turn walking hours into working hours
- Save up to 50% of filing time
- Increase accuracy, efficiency and clerk morale

And another big saving: Wassell Work Organizer revolving files *save up to 40% in floor space.* Send for your *free* literature on Work Organizers for the Sixties.

WASSELL ORGANIZATION INC.
WESTPORT, CONNECTICUT

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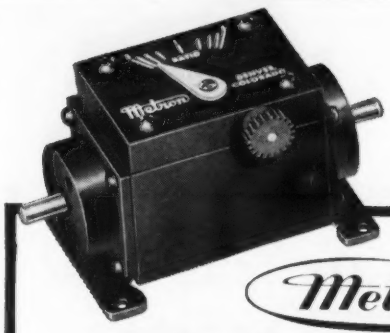

FROM Metron

A PART OR A PACKAGE

A PART: *Miniature adjustable ratio speed changers*
RATIOS: 1:5 up to 5:1 down (continuously variable over 25:1 range)
HORSEPOWER: .025 max. either shaft
TORQUE: 5 to 40 oz-in depending upon ratio
SPEED: 10,000 RPM max.
WEIGHT: 8 oz.
BEARINGS: double, heavy-duty ball
DELIVERY: 10 days
A PACKAGE: Call Metron now if you need help with speed changing design problems. Our 18 years of experience with miniature speed changers and precision instruments is at your service to design and build mechanical or electro-mechanical packages. Send your prints today and you'll hear from us promptly!

Metron
Metron Instrument Co.
432 Lincoln · Denver 3, Colo.
PE 3-3764 TWX: Dn 194

For more details circle **NED-368 C1** on enclosed inquiry slip

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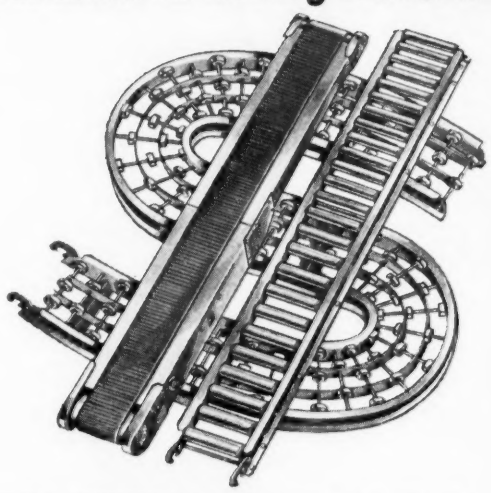

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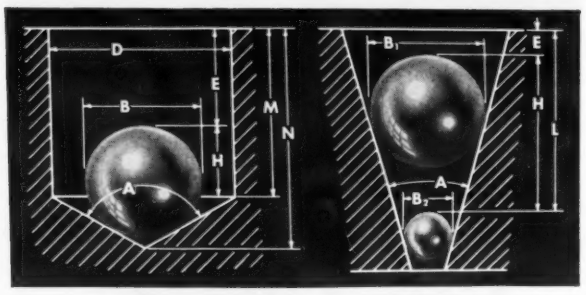
HOW TO KNOW IT ALL

Versatile Produc-Trol can give immediate and complete information on almost every phase of production. No recourse to files is needed; with Produc-Trol all the factors of efficient production are scheduled before your eyes — you have the right answer every time.

WASSELL ORGANIZATION, INC.
WESTPORT, CONNECTICUT

For more details circle **NED-370 C1** on enclosed inquiry slip



Tungsten Carbide

MASTER BALLS

- **For simplified checking** of hole depth, ID's, internal tapers — setting comparator gages — many other uses in shop, tool room and gage room.
- **Accurate to .000,010"** on size and sphericity.
- **Extremely hard** and wear-resistant. *Do not pit or rust* from handling or humidity.
- **Available from stock** in sets or individually in 31 sizes — 1/16" to 1" by 1/32" increments.

BULLETIN P-41 gives specs and prices. BULLETIN B-41 gives hole-checking methods and formulas. Write for them!

INDUSTRIAL TECTONICS, INC.
MANUFACTURERS OF PRECISION BALLS AND BEARINGS
BALL DIVISION: 3686 JACKSON RD.
ANN ARBOR 3, MICHIGAN

For more details circle NED-371 C1 on enclosed inquiry slip

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for every industrial application . . .

. . . is shown in this free bulletin. If you aren't familiar with Hartzell roof ventilators, you don't know what efficient, economical ventilation really is. Write for Bulletin A-112 or call your nearby Hartzell field office.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio — A member of AMCA

For more details circle NED-372 C1 on enclosed inquiry slip

KEEP INVENTORY MESHING SMOOTHLY WITH PRODUCTION

Acme Visible Cabinets give you inventory control at a glance

With an Acme Visible Control System on guard, there'll never be shortages in materials or equipment, or spare parts to interrupt the smooth flow of production. Inventory facts are at your fingertips. Visible signals flag your eye whenever an item needs reordering. For full facts on how you can control inventory this easy, efficient way . . . mail the coupon.

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To learn how my company can cut costs, increase efficiency—send free folders on systems for: ( ) Inventory Control ( ) Production Control

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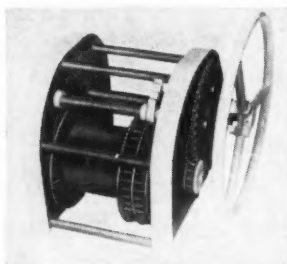
Company_____
City_____ State_____

For more details circle NED-373 C1 on enclosed inquiry slip

SPOTTING WINCH
handwheel makes ratio changes



Simple pin gear and sprocket construction of this one-man spotting winch makes it virtually impossible for gear teeth to become clogged or jammed by loose bulk or foreign materials. Developed for marine barge spotting and towing operations, it has industrial application in railroad car spotting, opening and closing car hopper doors, and moving heavy equipment. Two shift-free ratios, selected by a push or pull on the hand wheel, are 4:1 and 68:1 in the 15-ton model and 4:1 and 98:1 in the 40-ton model. Separate feet or base, not part of the side frames, can be welded or bolted in place. The 15-ton model has a load holding power of 32,000 lb and a 1-in. wire rope capacity of 75 ft. The 40-ton model holds 135 ft of 1-in. wire rope and has a holding power of 45,000 lb. Both units are reversible. • **Western Gear Corp.**, Southwestern Div., 117 N. Palmer, Houston 3, Tex.

For more details circle NED-374 C1 on enclosed inquiry slip

PROFILE GRINDER
tilting-table unit polishes contours, irregular shapes

Grinding wheel of the Star No. 3 floor-type tilting-table profile grinder is mounted on a spindle which reciprocates vertically for polishing contoured and irregular shaped parts. Spindle is in the center of a counterweighted 18-in. diameter work table which can be tilted and locked for finishing angular work surfaces. Wheel rotates at selected speeds of 4500, 6500, or 10,150 rpm and reciprocates 3/16 in. 90 times per minute.

Vertical slide-mounted table is raised with a hand wheel to bring part to correct vertical contact with wheel. Part is moved on the table around the wheel to contact desired work areas. Powered by a 1½-hp motor, grinder is provided with two table center plates, a diamond dresser, three socket wrenches, seven mounted pencil grinding wheels from ⅜ to 3-in. diameter, and 3 and 4-in. cup-type wheels with appropriate arbors. • **Star Cutter Co.**, 34500 Grand River Ave., Farmington, Mich.

For more details circle NED-375 C1 on enclosed inquiry slip

No more marking problems

with an automatic "ROLACODER" marker

Attaches to conveyor, case-sealer, etc. to mark from side or top • Works by friction • Imprints legible mark in same spot on case after case • Takes only 1 or 2 minutes to change type • No tricky adjustments • Precision-made for long trouble-free service • Pays for itself in months • Other models for marking 2 and 4 sides simultaneously.

Now available with amazing 'MAGIC INK ROLL' that *never needs re-inking!* Made of PORELON® microporous plastic

Write for "ROLACODER" literature

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines — Gottscho®

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For more details circle NED-376 C1 on enclosed inquiry slip

HIGH CAPACITY
at LOW COST

VERSA-VEYOR
SERIES 600

Lightweight aluminum construction affords cost-saving, one-man portability

Complete unit as low as $325

NOW . . . move bulk loads from truck to storage . . . from floor to floor — in less time, at less cost! All-bolted, anti-rust aluminum construction provides lightweight strength, reduces manpower needs. 16 ft. unit weighs only 100 lbs. Chain or belt models, 10 to 28-ft. lengths. *Write:*

VERSA Corporation
Box 152, Mt. Sterling, Ohio

For more details circle NED-377 C1 on enclosed inquiry slip

Norblo arrangement #8-A fan

EXHAUST FANS FOR DUST, FUME AND AIR HANDLING

Norblo high speed fans deliver top efficiency and service because they're designed and built by a manufacturer of dust collection systems, proved by more than 40 years of heavy-duty operations. ■ Rugged construction, statically and dynamically balanced wheels, perfected manufacturing techniques, assures you of dependable service on all types of materials. ■ Bulletin 1002 will give complete specifications of types and sizes available. Buell Engineering Company, Northern Blower Division, 6435 Barberton Ave., Cleveland, Ohio. ■ Electric Precipitators • Cyclones • Bag Collectors • Combination Systems • Fans • Classifiers • Discharge Valves

buell Norblo®

For more details circle NED-378 C1 on enclosed inquiry slip

The OFFICE VALET®

As modern as today, Office Valet Wardrobe Racks fit in anywhere, harmonize with any decor. They hold hats, coats, overshoes and umbrellas efficiently (accommodate 3 persons per square foot of floor space) and properly (with hats on dustproof shelves; coats on spaced apart wooden garment hangers — aired, dry and "in press"). Built for lifetime service of heavy gauge welded steel and finished in choice of colors and baked finishes. Exactly matching add-on units (end to end or back to back) always available.

Write for Catalog OV-8

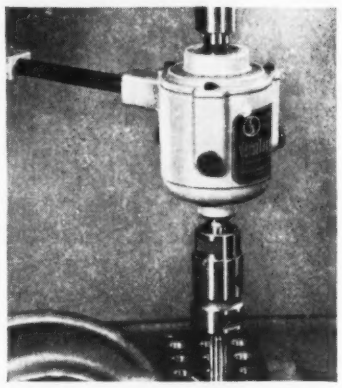
VOGEL-PETERSON COMPANY
RT. 83 AND MADISON ST. • ELMHURST, ILL.

For more details circle NED-379 C1 on enclosed inquiry slip

EQUIP YOUR DRILL PRESS WITH A

Supreme VersaTAPPER

. . . new tapping attachment that gives more capacity . . . more production



The new Supreme VersaTAPPER is a drill press tapping attachment that offers maximum efficiency at lowest initial cost. It's the ideal tool for tapping all holes from No. 10 thru ½". (The full capacity range is 0 to ⅝".) Simple and safe to operate. Two models:—No. 6100 with straight shank for chucking; No. 6200 with Morse taper arbor. Both models include a Supreme Accutap Tap Chuck.

Ask your distributor for a VersaTAPPER demonstration. Write for literature.

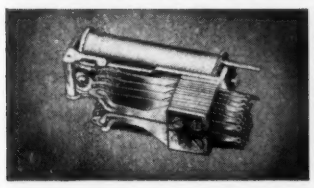
$63 COMPLETE

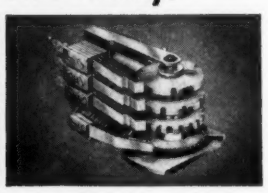
SUPREME PRODUCTS CORPORATION

2222 S. Calumet Ave., Chicago 16, Ill. PRECISION A-S-R PRODUCTS

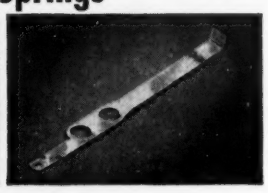
For more details circle NED-380 C1 on enclosed inquiry slip

AUTOMATIC ELECTRIC Relays



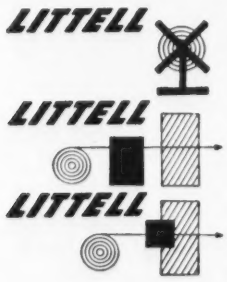


Get These Precision Springs



From LITTELL-Fed Presses

Here is precision stamping. These springs actuate the sensitive Automatic Electric Relays that serve as "brain cells" in various computers—as "nerve centers" in complex teletypewriter switching systems. Automatic Electric makes sure of sustained precision results by stamping these vital springs on electronically controlled punch presses served by Littell equipment.



LITTELL **REELS AND COIL CRADLES** supply the stock in a smooth, even flow.

LITTELL **STRAIGHTENERS** remove coil curvature, send flat stock into the press.

LITTELL **ROLL FEEDS** push the straightened stock into the die area in perfect timing with the press stroke.

The entire operation is automated. Safety devices automatically stop the press and protect the die when stock has been consumed or if any malfunction in parts ejection, or stock location occurs. Catalogs are available on request.

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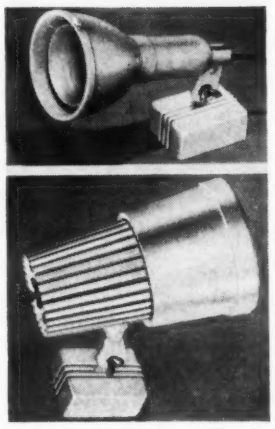
For STRAIGHTENERS C-Series Catalogs
For ROLL FEEDS Catalogs A-1, A-10, A-15

F. J. LITTELL MACHINE CO.
4169 Ravenswood Ave., Chicago 13, Ill.

For more details circle NED-381 C1 on enclosed inquiry slip

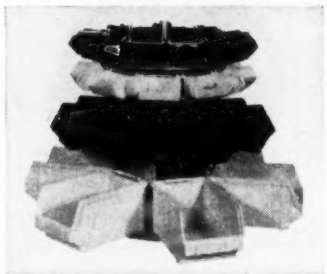
MAGNETIC BASE LAMPS hold with 60 lb of force



Base of these magnetic lamps measures only 2¼ x 1½ x 1 in. yet grips ferrous machine surfaces with 60 lb of holding force. Lamps are offered in two styles—the Arealite for wide area illumination and the Magnaspot for concentrating light in a localized area. Molded of high impact plastic, lights have a cool-to-the-touch exterior. Tubular or flexible extension arms can be provided. PVC base cover resists oil, grease, and most industrial solvents. Colors other than green can be requested. • **Recarr, Inc.**, 126 N. Clinton St., Chicago 6, Ill.

For more details circle NED-382 C1 on enclosed inquiry slip

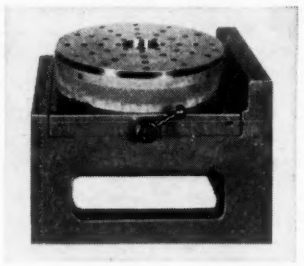
ROTARY BENCH STANDS hold plastic parts boxes



Various combinations of the three Plastibox container sizes can be mounted on these rotary bench stands. They keep parts and fittings at the worker's fingertips during assembly operations. The easy - turning unit mounts combinations of box sizes or all of one size. They are easily removed for refilling. • **G. B. Lewis Co.**, Dept. PRB, Watertown, Wis.

For more details circle NED-383 C1 on enclosed inquiry slip

ROTARY INDEXING TABLE 1 degree index accurate to ¼ sec arc



Whole-degree angular indexing accurate within ¼ sec of arc is provided by 7-in. diameter Milichex rotary indexing table. Table top and base each have 360 ground and lapped teeth that mesh for positive positioning and locking. Used for machining or inspecting, table has sealed design to allow use of coolants or lubricants. Top is flat and parallel within 0.000050 in. and has radially dispersed holes for attachment of workpieces. Optional Model MX-3600R has right-angle base for horizontal or vertical use. • **Michigan Tool Co.**, 7171 E. McNichols Rd., Detroit 12, Mich.

For more details circle NED-384 C1 on enclosed inquiry slip

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EMPLOYEE MOTIVATION KIT

INCLUDES:

- **SUCCESSFUL SUPERVISION**
  MOTIVATION
  LINE-STAFF RELATIONS
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- **MULTI-COLOR DISPLAYS**
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  WASTE REDUCTION
  INJURY PREVENTION
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MOUNT VERNON, NEW YORK

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Dept. E, Mount Vernon, N. Y.
Please provide me with the Elliott "Employee Motivation Kit."
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Title .....
Firm .....
Address .....
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For more details circle NED-385 C1 on enclosed inquiry slip

- One-piece, spring-steel, vibration-proof
- Double latch permits pre-assembly to wire or harness
- Triple rib retainers grip tightly on round or rectangle cords from .175" round to .306" x .515" rectangle
- Easily withstands 35-pound pull test requirements
- Easy to install and remove from front side

Write for free descriptive literature

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-386 C1 on enclosed inquiry slip

- High quality spring steel
- Snap into place with simple tool
- Designed to hold tight under severest vibration and high starting torque in any mounting position
- Fit most popular fractional-horsepower motor sizes

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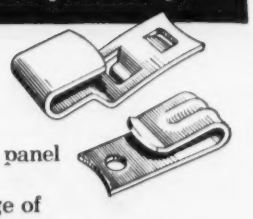
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-387 C1 on enclosed inquiry slip



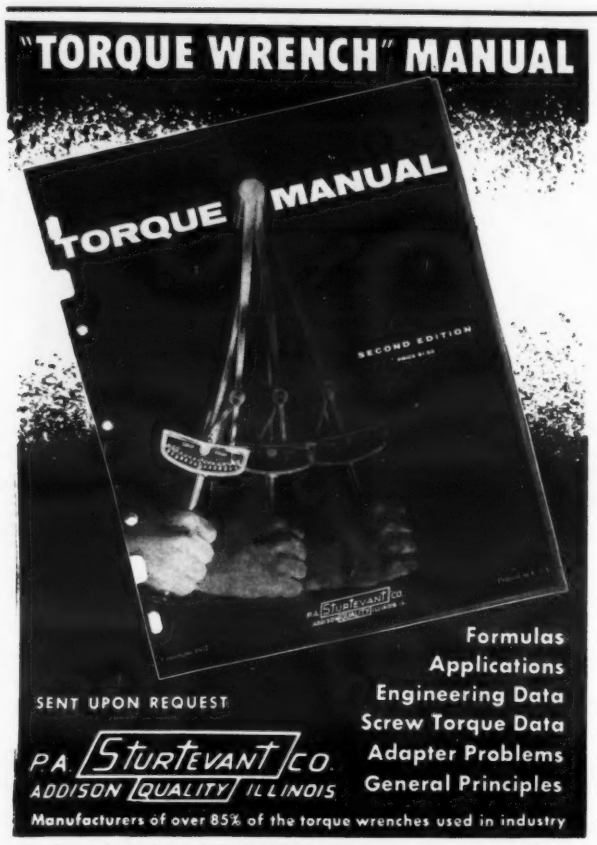
- One-piece, spring steel, vibration proof
- Exclusive "heel and toe" fastening feature
- Easy to mount in center panel holes or blind locations
- Available for a wide range of panel thicknesses

Write for free descriptive literature

TINNERMAN PRODUCTS, INC.
BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-388 C1 on enclosed inquiry slip

"TORQUE WRENCH" MANUAL



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Engineering Data
Screw Torque Data
Adapter Problems
General Principles

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ADDISON ILLINOIS QUALITY

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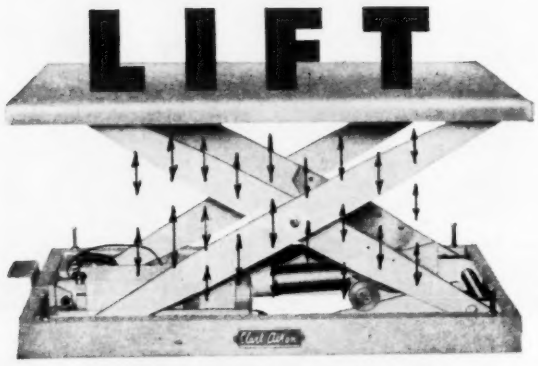
For more details circle NED-390 C1 on enclosed inquiry slip

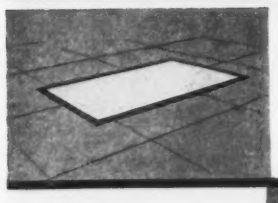
EASY WAY TO GET A LIFT



FOR LOADS UP TO 6000 LBS.—IN MATERIALS HANDLING SYSTEMS OR FOR CONVENIENT PORTABLE USE

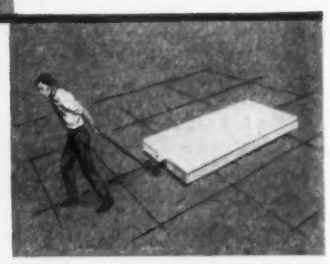
Standard sizes afford a wide selection of heights that readily adapt them to changing requirements—from floor level to a height of 48" and will lift up to 6000 lbs. depending on the unit. Control is fast and sure for any height positioning and with electronic accessories automatic positioning is available. Special cradle tops are available for handling paper rolls and other cylindrical materials.

Clark-Aiken STANDARD LIFT TABLES



FLOOR LEVEL INSTALLATIONS WITH SAFETY TOE GUARD
Tables may be flush floor mounted with disappearing toe guards for safe operation.

EASY TO MOVE FOR PORTABLE USE
Portable unit is wheel mounted; makes easy mobility around the shop for your requirements.



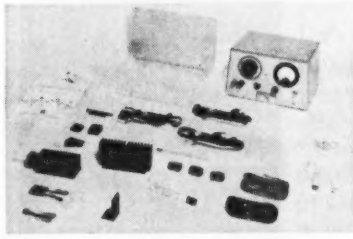
Send today for informative bulletin. Tell us your requirements and we will recommend table size.

THE Clark-Aiken COMPANY
105 HART ST. LEE, MASSACHUSETTS

Canadian Representative: Gordon W. Keates
133 Flora Drive, Scarborough, Ontario

For more details circle NED-391 C1 on enclosed inquiry slip

THERMOELECTRIC KIT for prototype and experimental use



Usable for electronic, industrial, medical, and educational research and development work, Type 300 thermoelectric experimental kit includes a 38-page instruction book and laboratory manual. It makes it possible to obtain empirical knowledge of thermoelectric materials, principles, and techniques. Included in kit are typical Frigistor cooling modules of Neelium, as well as all necessary hardware to conduct a broad range of basic experiments in thermoelectric cooling and power generation. • **General Thermoelectric Corp.**, Box 253, Princeton, N. J.

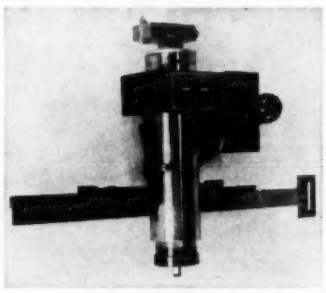
For more details circle NED-392 C1 on enclosed inquiry slip

AC MOTORS are rated 1/400 to 1/4 hp

Suited for both military and industrial use, G-frame motors are offered with or without a mounting base. Options include ratings from 1/400 to 1/4 hp, induction or hysteresis synchronous types, self-cooled or totally enclosed, and finned or plain frames. Either single or three-phase, 60-cycle, two or four-pole types are available for operation in the −55 to 125° C ambient range. • **Air Marine Motors, Inc.**, Bayview Ave., Amityville, L. I., N. Y.

For more details circle NED-393 C1 on enclosed inquiry slip

LATHE COPYING ATTACHMENT turns a wide variety of contours



An almost unlimited variety of contours, radii, tapers, and 90-degree reverse shoulders in unlimited lengths and diameters can be turned with the Turnomat copying lathe attachment. It is mounted on the tool post of any size and make engine lathe, screw machine, and boring mill. The mechanically actuated tool will copy from a template to tolerances of 0.005 in. in one pass, with zero precision in concentricity. Device enables an unskilled operator to handle more than one machine. Template service and pilot runs are available from prints submitted for cost estimate. • **Turnomat Co.**, Brockport, N. Y.

For more details circle NED-394 C1 on enclosed inquiry slip

NOW!

'ROUND THE CLOCK REPRODUCTION FOR SMALLER ENGINEERING DEPARTMENTS!

Bruning's unique Model 300 brings all the advantages of big-machine reproduction right into your engineering department. At a price to fit your budget! You make sharp, black-on-white prints, in seconds, up to 30 inches wide by any length. You get the prints you need when you need them! You maintain closer control of costly originals. Altogether you add new convenience, speed, and efficiency to your entire operation. The "300" is quiet and odorless, needs only a 115-volt connection.

BRUNING Copyflex®

Charles Bruning Co., Inc., Dept. 3-VA.
1800 Central Road, Mt. Prospect, Ill.
Please send me information about your low-cost Copyflex Model 300.
Name _____ Title _____
Company _____
Address _____
City _____ Co. _____ State _____

For more details circle NED-395 C1 on enclosed inquiry slip

CONTROL COSTLY PIPE MOTION

Flexonics
METAL HOSE

Your Flexonics distributor is a "Pipe Motion Specialist." Let him analyze your pipe motion problems, make recommendations that minimize equipment maintenance, prolong its life. He has a large inventory of standard hose and fittings . . . is equipped to fabricate complete assemblies to your specifications.

For fast, dependable local service call your

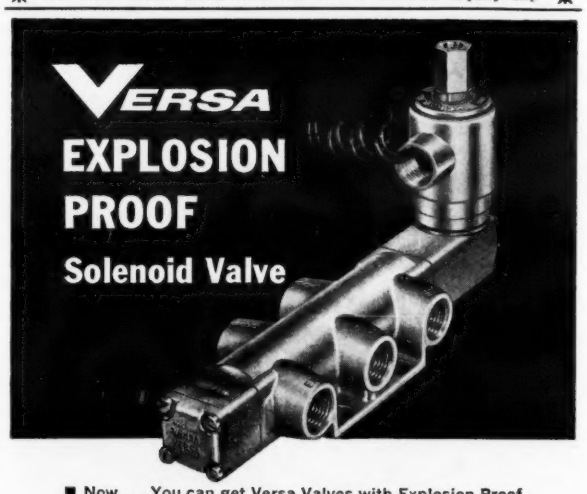
IH-445

Write for your free copy—FLEXONICS METAL HOSE CATALOG.

Flexonics
PIPE MOTION SPECIALISTS

Authorized Distributor
FLEXONICS CORPORATION
362 East Devon Ave., Maywood, Ill.
SUBSIDIARY OF CALUMET & HECLA, INC.

For more details circle NED-396 C1 on enclosed inquiry slip



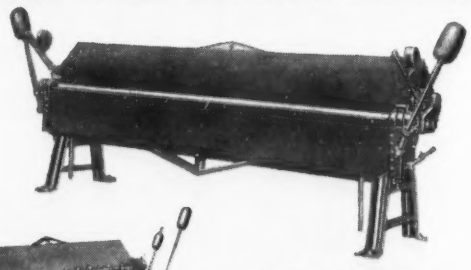
■ Now . . . You can get Versa Valves with Explosion Proof Solenoid actuation. This new actuator is available on any series "V" and "T" Valves in sizes from 1/8" NPT to 1/2" NPT in 2-, 3-, 4- and 5-way types, in side port models or sub-plate models for manifold mounting, and for pressures from partial vacuum to 500 PSIG. ■ These superior valves are completely enclosed units, having no external moving parts and they are virtually trouble free. ■ All Versa Valves are triple pressure and functionally tested under water for guaranteed leakproofness. ■ For complete information write today for Bulletin #660.

VERSA Valves
VERSA PRODUCTS COMPANY, INC.
150N COOLIDGE AVE., ENGLEWOOD, NEW JERSEY

For more details circle NED-397 C1 on enclosed inquiry slip

Bending Sheet Metal
single pieces or quantity runs

CHICAGO® HAND BENDING BRAKES



Standard
HAND BRAKES
•
Universal
BOX and PAN BRAKES

Both the standard hand brakes and the universal box and pan brakes are available in a wide range of standard sizes. Each features all-steel rugged construction, one-man operation, and quick adjustments.

For Full Details—Ask for Bulletin HB-59

6781

CHICAGO DREIS & KRUMP
Press Brakes • Straight-Side-Type Presses • Press Brake Dies
Hand and Power Bending Brakes • Special Metal-Forming Machines

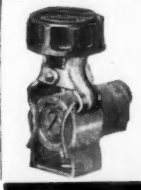
DREIS & KRUMP MFG. CO.
7436 South Loomis Boulevard, Chicago 36, Illinois

For more details circle NED-398 C1 on enclosed inquiry slip

TRICO America's Finest
AUTOMATIC OILERS
Repay Their Cost
MANY TIMES OVER

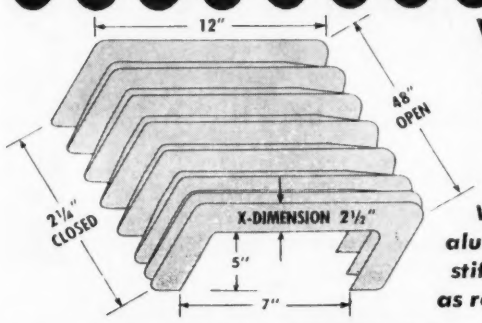
- Productive man-power is released for other, more profitable duties.
- Down-time for "trust-to-luck," wasteful hand oiling is eliminated.
- Costly bearing failures are reduced to a minimum.
- Machine life is greatly prolonged.

Eliminate old, wasteful and dangerous "Trust-to-luck", daily hand oiling methods . . . One filling of TRICO Oilers lasts a long time and provides perfect constant bearing protection at all times. Switch to TRICO Oilers now . . . They are quickly and easily installed. There's a type and size for most every application.
WRITE FOR FREE CATALOG



TRICO KLIPLOK CLAMPS
FOR FUSE CLIPS
"Lock like a vise."—Stay put. Save Power—Fuses—Clips. Stop unnecessary fuse blows. Especially recommended for use with "Dual-element" fuses. Pay for themselves quickly.
SEND FOR FREE BULLETIN No. 6
TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.
▲ For more details circle NED-399 C1 on enclosed inquiry slip ▲

PROTECTED WAYS

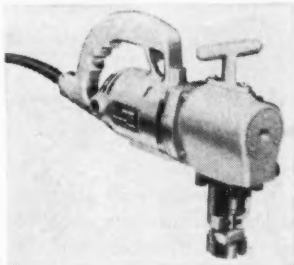


With aluminum stiffeners as required

OIL RESISTANT NEOPRENE
NOTE: 2½" dim. determines the small, 2¼" close. Variations in "X" govern closed lgth.
GORTITE, new, pliable way-protectors for . . . milling machines, grinders, boring bars and other machine tools are fabricated to order from fiberglas and new neoprene-base materials. Ask for new bulletin GW-100. A&A MFG. COMPANY INC., 712 S. 12th St., Milwaukee 4, Wis.
BELLOWS . . BOOTS . . SLEEVES . . WAY PROTECTORS

▲ For more details circle NED-400 C1 on enclosed inquiry slip ▲

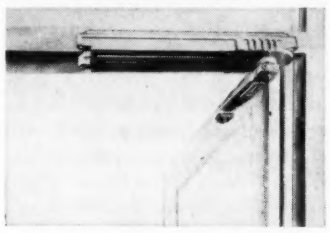
PORTABLE NIBBLER
uses punch and die principle



As this No. 691 portable sheet metal nibbler is moved along the cutting line, it punches out small rectangular pieces of metal, leaving a smooth edge. Metal on either side of cut is not bent or curled. The heavy-duty tool weighs 16¼ lb and develops the pressure of a 2-ton punch press to cut up to 8-gage mild steel and copper up to 3/16 in. thick. It will also cut lighter gage stainless and Monel. Unit operates at 600 strokes per minute under rated load. Features include an auxiliary T-handle for accurate control and an automatic oiler which lubricates the work. Price is $330. • **Black & Decker Mfg. Co.**, 762 E. Pennsylvania Ave., Towson 4, Md.

▲ For more details circle NED-402 C1 on enclosed inquiry slip ▲

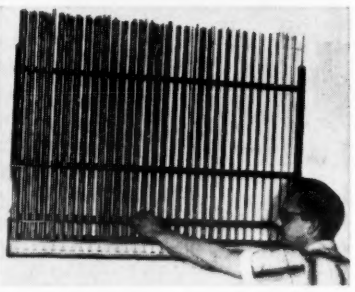
DOOR CONTROL
overhead type is concealed



Single or double-acting doors in any type of building are efficiently controlled by the Headliner concealed overhead door control. No visible parts protrude to interrupt the clean lines of doors or frames, even when the door is open. Control is concealed in the head jamb or transom bar as small as 1¾ x 4½ in. It has a built-in back stop and optional hold-open. • **Republic Industries, Inc.**, Dor-O-Matic Div., 7350 W. Wilson Ave., Chicago 31, Ill.

▲ For more details circle NED-403 C1 on enclosed inquiry slip ▲

DRILL ROD STORAGE RACK
also provides visual inventory



Mounted on a wall, this self - indexing steel storage rack for drill rod holds 8 to 10 rods of each size and all lengths from 3 to 36 in. It facilitates selection and also provides an automatic visual inventory of stock. Each slot is labeled with size number and fractional or decimal equivalent. Model N is indexed from No. 1 to 60 and is priced at $31.50. Model F is indexed from 1/32 to 17/32 in. in 1/64-in. increments and sells for $29.50. • **Industrial Tool Works**, 3541 Martens St., Franklin Park, Ill.

▲ For more details circle NED-404 C1 on enclosed inquiry slip ▲

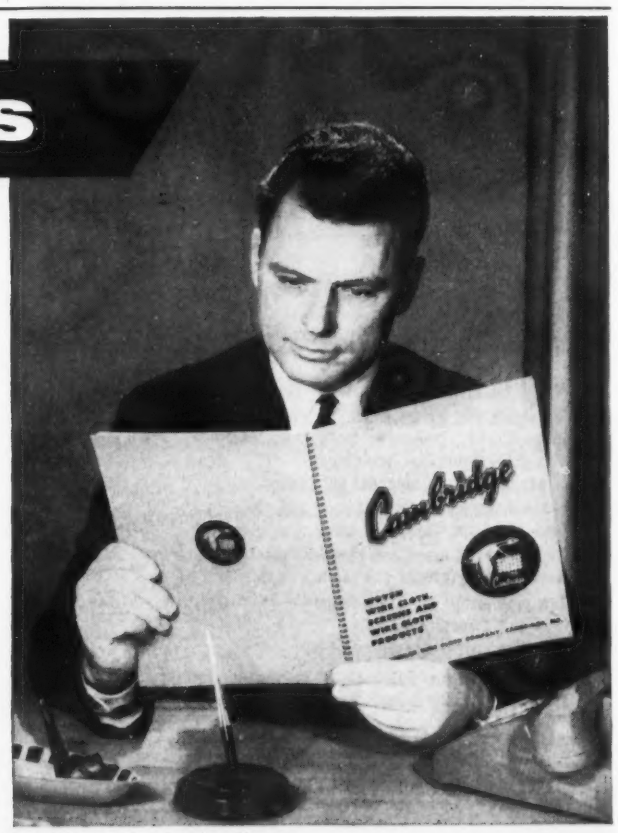
FREE IDEAS
for . . .
. . . increasing production
. . . improving quality
. . . saving money
. . . solving other problems with Cambridge Wire Cloth

Write for your free copy of our 102-page illustrated technical manual. Gives typical applications, trade definitions, information on how-to-order wire cloth, metal and alloy information, reference and other data, also illustrates meshes weaves, typical fabrications.

Or, for detailed information on how Cambridge Wire Cloth can help you in your operations, call your Cambridge Field Engineer. He's listed in the yellow pages under "Wire Cloth".

The Cambridge Wire Cloth Co.
Department C • Cambridge 3, Md.

Manufacturers of Metal-Mesh Conveyor Belts, Flat Wire Conveyor Belts, Wire Cloth, Wire Cloth Fabrications, Gripper ® Metal-Mesh Slings

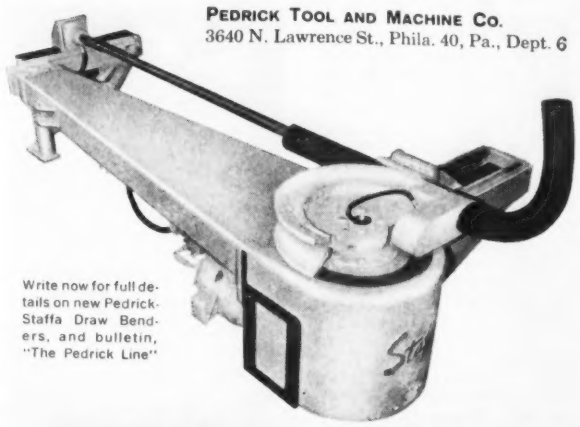


▲ For more details circle NED-401 C1 on enclosed inquiry slip ▲

CALLING ALL TUBE BENDERS

If you bend thin wall conduit or tube, you *should* investigate new Pedrick-Staffa hydraulic draw bending machines and their exclusive features.

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6



Write now for full details on new Pedrick-Staffa Draw Benders, and bulletin, "The Pedrick Line"

BEND WITH PEDRICK
▲ For more details circle NED-405 C1 on enclosed inquiry slip ▲

NEW
URETHANE WHEELS OF DU PONT ADIPRENE® OUTLAST RUBBER 5 TO 1

Here's an entirely new kind of resilient material for industrial wheels . . . ADIPRENE, a urethane elastomer made possible by Du Pont research.

Solid tires, caster and pallet wheels made from this new Du Pont elastomer carry far heavier loads than conventional rubber wheels, yet are resilient, non-marking. They resist oils, mild acids and alkalies, temperature extremes, weathering and aging.

And most important, ADIPRENE wheels outlast conventional rubber wheels by many times. Their resistance to abrasion, cutting, chipping and abuse is outstanding. In one plant, they outlasted rubber eight times. In another, where rubber wheels usually lasted only a few days, they were still in good condition after *six months*. Four- and five-fold increases in service life are common.

Send the coupon today for complete information.

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Department NED-3
Wilmington 98, Delaware
☐ I would like to know more about ADIPRENE industrial wheels. Please send literature and list of manufacturers.
☐ I am particularly interested in the following types of wheels
☐ Other information
Name
Firm
Address
City State

DU PONT ADIPRENE® URETHANE RUBBER
Better Things for Better Living . . . through Chemistry
▲ For more details circle NED-406 C1 on enclosed inquiry slip ▲

Hints on fluorescent starter selection

G-E FS-400 STARTERS GIVE YOU FULL RATED LIFE FROM NEW G-E "PREMIUM 3" LAMPS

You get 17% more light — even in old fixtures — from new G-E Premium 3 lamps! And, to help you get full rated life from these lamps, General Electric recommends that *only* G-E FS-400 Watchdog* Starters be used. They protect lamp life by preventing "instant starts" before cathodes are properly pre-heated.

Ask your General Electric distributor for the "G-E" Starter Selection Chart and Maintenance Guide for Fluorescent Lighting." General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

*Registered Trade-mark of General Electric Company

GENERAL ELECTRIC

For more details circle NED-407 C1 on enclosed inquiry slip

...let these hands

relieve your draftsmen from tedious hand lettering...

1 VariTyper saves lettering time of 4 draftsmen

Save your draftsmen's valuable time for more creative work. VARITYPER, operated by your office typist, can letter up tracings 12 feet or more in width. Type is instantly changeable affording a choice from hundreds of different styles and sizes. You can letter up such jobs as bills of materials, specifications, forms, instruction manuals, etc. Letters directly on cloth, offset plates, stencils and paper.

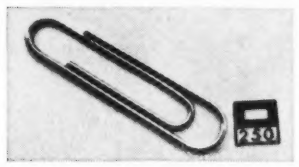
This copy, for example, was prepared on a VARITYPER (Model 610). The Headlines were photo-composed on the HEADLINER.

VARITYPER CORPORATION
SUBSIDIARY OF ADDRESSOGRAPH-MULTIGRAPH CORPORATION
Cutting Costs Is Our Business

VARITYPER CORPORATION *Dept. E-35*
720 Frelinghuysen Ave., Newark 12, N.J.
Please send VARITYPER Book E-35
NAME.....
COMPANY.....
ADDRESS.....
CITY.....ZONE...STATE.....

For more details circle NED-408 C1 on enclosed inquiry slip

HEAT INDICATED LABEL turns black when heat is reached



Only ¼ in. square, Model 200 Temp-Plate temperature indicating label is a tiny plastic adhesive tab that sticks to almost any surface. It turns black when its temperature reaches any desired value from 100 to 500° F. Label is accurate to within ±1 per cent and is impervious to most shop, flight line, or launching area atmospheres. It shows at a glance whether a part is operable or unsafe. • **Pyrodyne, Inc.,** 11973 San Vicente Blvd., Los Angeles 49, Calif.

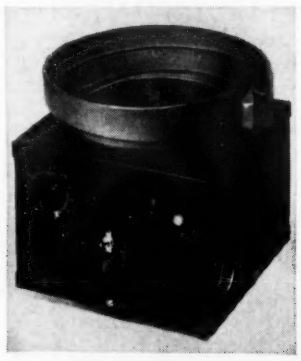
For more details circle NED-409 C1 on enclosed inquiry slip

RUBBER INDUSTRIAL GLOVES new finish eases put-on and take-off

Surety natural rubber industrial and household gloves are now given a soft, velvety finish to facilitate putting on and taking off. This permanent surface treatment will not wash, wear, or rub off and remains effective for the life of the gloves. Velvex finished gloves afford liquidproof hand protection without loss of dexterity and sense of touch. They are offered in all men and women types and styles. • **Surety Rubber Co.,** 226 Hall Ave., Carrollton, Ohio.

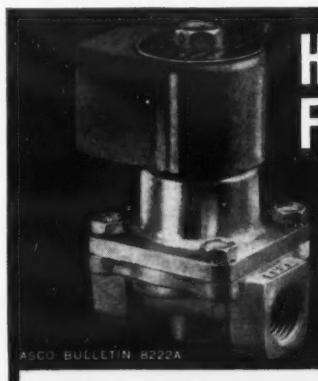
For more details circle NED-410 C1 on enclosed inquiry slip

VIBRATORY PARTS FEEDERS five models for parts to 5 in. long



Automatic, oriented position, single line feeding of parts to various automatic machines is accomplished by Elk-O-Matic vibratory parts feeders. Accurate flow regulation provided by an electric variable control enables timing them to the capacity of automatic assembly equipment. Gentle vibrations move even hard-to-flow parts freely and without interruption. Five available models have 5 and 7, 11 and 12, 18, 24, and 30-in. diameter cast aluminum bowls for feeding parts from ¼ to 5 in. long. All models are furnished with either clockwise or counter-clockwise feeds. Except for the smallest model with a separate controller, they have a choice of built-in or separate controls. Smallest unit is 5½ in. square and the largest is 22½ x 22½ in. • **Elk Engineering Works,** Stackpole Street, St. Marys, Pa.

For more details circle NED-411 C1 on enclosed inquiry slip



HOT FLUID CONTROL UP TO 400° F.

WITH ULTRA-LOW-WEAR 2-WAY SOLENOID VALVE

For steam, hot gases and light liquids up to 400° F., pressures to 200 p.s.i.; with general-purpose, watertight or explosion-proof solenoid enclosures.

Teflon discs assure tight shut-off and last throughout the life of the valve.

Rugged forged brass and stainless steel construction prevents corrosion.

New pipe sizes! Complete range from ¼" through 1½".

Mounting possible in any position.

Write for illustrated Bulletin 8222A, containing full details, specifications and price schedule.

ASCO Valves ASCO

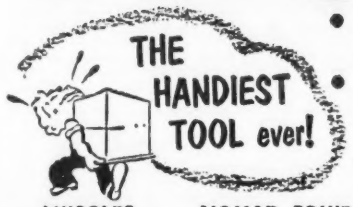
Automatic Switch Co. 54-B HANOVER RD., FLORHAM PARK, N. J. • FRONTIER 7-4600

For more details circle NED-412 C1 on enclosed inquiry slip

free-wheeling

UTILITY CART

CARRIES PARTS, TOOLS AND MATERIALS AT AN EASY WORKING HEIGHT!



- KEEPS PARTS SEPARATED
- GIVES MOBILITY BETWEEN WORK STATIONS

Write for information

MUSCLES

NOMAD EQUIPMENT CORPORATION
3110 W. FOND DU LAC AVE., MILWAUKEE 10, WIS.

NOMAD EQUIPMENT

Designers and Manufacturers of Complete Conveyor Systems.

For more details circle NED-413 C1 on enclosed inquiry slip

Here's the FAST, EASY WAY to LIFT heavy metal pieces...use the DINGS MAGNA-HOIST

- HANGS ON ANY HOIST
- HANDLES ANY SHAPE
- FASTER, STRONGER THAN ANY MUSCLE

The Dings MAGNA-HOIST is ideal for those back-breaking "odd" jobs around the shop. Dings Magna-Hoist is quicker than a hook sling, more flexible and more *available* than a lift truck . . . better, faster and stronger than any muscle.

It's low in cost, sturdily-built and will work for years with little maintenance . . . measures only 8" x 14" x 3".

Picture Magna-Hoist stacking stock and finished parts; loading and unloading trucks; lifting material on and off machine beds; *then write DINGS for full details.*

Dings

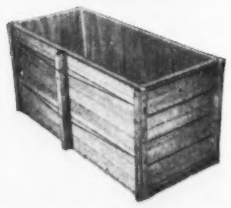
DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave. • Milwaukee 46, Wisc.

For more details circle NED-414 C1 on enclosed inquiry slip

modern WOOD TANKS (ROUND OR RECTANGULAR) for Handling and Storage of Chemical Solutions

NON-CORROSIVE

- **Low Initial Cost**
- **Low Maintenance Cost**
- **Easy Erection**



Wood has stood the test of time. It has no superior for many industrial uses because it is highly resistant to decay, to acid and chemical solutions, and in addition, has high insulating properties. These factors make wood the ideal material for tank building.

PLASTIC LININGS IN WOOD TANKS

Allow use of much stronger Chemical solutions than possible before. The new Polycel Tank offers big advantages over high priced alloys.

Write for Bulletin 60 or see our literature in Chemical Engineering Catalog.

WENDNAGEL & CO., INC.

614 W. Cermak Road Chicago 16, Illinois

For more details circle NED-415 C1 on enclosed inquiry slip

Tempilstik°

*temperature indicating crayons**

*Also Tempil° Pellets and Tempilaq° (liquid form)

Tempilstik°—a simple and accurate means of determining preheating and stress relieving temperatures in welding operations. Widely used in all heat treating—as well as in hundreds of other heat-dependent processes in industry. Available in 80 different temperature ratings from 113°F to 2500°F . . . $2.00 each.

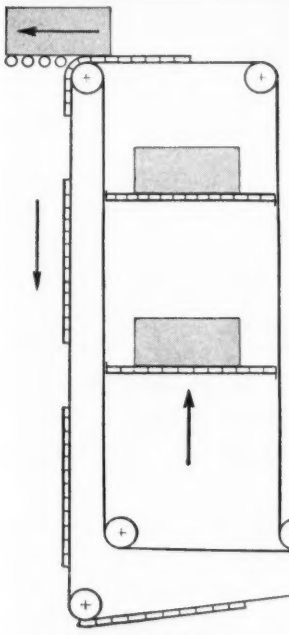
Send for free sample Tempil° Pellets. State temperature desired . . . Sorry, no sample Tempilstiks°.

Most industrial and welding supply houses carry Tempilstiks° . . . If yours does not, write for information to:

ADVERTISING DIVISION

Tempil° CORPORATION
132 West 22nd St., New York 11, N. Y.

For more details circle NED-416 C1 on enclosed inquiry slip



Self-Loading Vertical Conveyor

Escaveyor is a completely new type of continuous vertical conveyor. It loads and unloads up to 10 units per minute automatically. Platforms fold into vertical position for descent. Available for up, down, or reversible service.

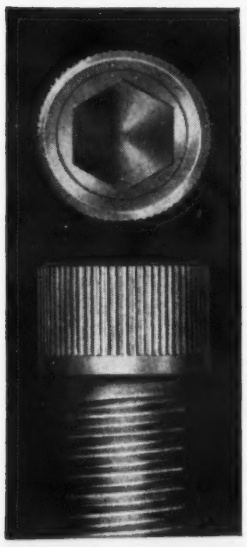
- Moves 10 loads per minute
- Loads, unloads itself
- Requires no operator
- Takes less floor space

WRITE TODAY *for descriptive brochure with performance data, drawings, photos of actual installations. Standard Conveyor Co., 310-C Second St., N. St. Paul, Minn.*

Standard Conveyor Sales and Service in more than 40 Principal Cities

For more details circle NED-417 C1 on enclosed inquiry slip

New stainless cap screw offers 125,000 psi tensile—certified!



New UNBRAKO KS 812 stainless steel socket head cap screw gives you 125,000 psi *minimum* tensile strength, certified by affidavit. Among the features of this fastener—

- Made of high-grade austenitic stainless
- Precision-forged, burr-free head
- Rolled thread with SPS Hi-Life root form for increased fatigue resistance
- Serviceable from —300° to 800°F.

Use this new high-performance UNBRAKO to add strength to your stainless assemblies—without the cost of specials. Sizes #8 to ⅜ in. See your SPS distributor or write Standard Pressed Steel Co.

INDUSTRIAL FASTENER Division **sps**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-418 C1 on enclosed inquiry slip

HIGH PRESSURE SEALS good for −450 to 500° F, 5000 psi

Temperature and pressure extremes encountered in missiles and high performance aircraft are endured by Pneuflex pressure-actuated seals which function in temperatures from −450 to 500° F at pressures to 5000 psi. Seal is a flexible metallic ring with protruding sealing edges coated with soft resilient material that flows into the irregularities of mating surfaces. Only normal machined finishes are required on mating flange and component surfaces. Liquid or gas introduced into the unit under pressure acts on the inner walls and effects a tighter joint. Seal is normally fabricated from aluminum alloy and coated with Teflon. High temperature seals are of stainless steel, Monel, and Inconel coated with copper, gold, or silver. • **Arrowhead-Puritas Waters Inc.**, Del Mfg. Div., 1584 E. 20th St., Los Angeles, Calif.

For more details circle NED-419 C1 on enclosed inquiry slip

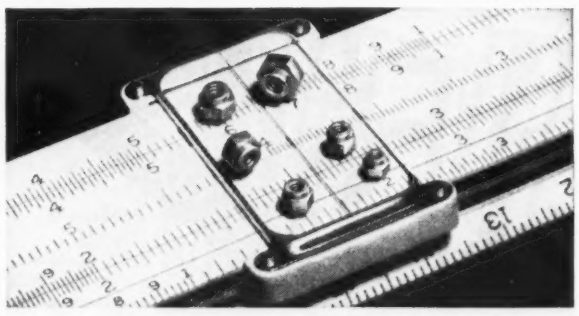
TRANSISTOR TESTER all-semiconductor unit aids checking of PNP transistor switching circuits

All necessary supply voltages and waveforms for designing, testing, and demonstrating PNP transistor switching circuitry are provided by Model 1320 Navcor Experimenter. The all-semiconductor, general purpose lab instrument contains three power supplies, a squarewave generator, and output control switches.

Power supply No. 1 is variable over 0 to 15-v range and provides regulated voltage to 200 ma load current. Supply No. 2 is a fixed +12-v supply, regulated to 100 ma load. Supply No. 3 which drives the squarewave generator, can be varied to change waveform output over a 0 to 12-v range.

The squarewave generator provides two output squarewaves, one exactly 180 degrees out of phase with the other. Squarewave frequency is variable over a 5 to 500 kc range. Any combination of 0 to 10 outputs may be set up to give a wide variation of in or out-of-phase combinations. Circuitry is located on an easily serviced single internal card module. • **Navigation Computer Corp.**, Valley Forge Industrial Park, Norristown, Pa.

For more details circle NED-420 C1 on enclosed inquiry slip



Microsize FLEXLOCs save weight and space, increase mechanical reliability of your miniature assemblies. Reusable, they are unaffected by moisture, dryness, oil or grease.

Microsize FLEXLOC locknuts protect mechanical integrity of small assemblies

- Hold tight despite impact, shock, vibration
- Require no auxiliary locking elements
- One-piece, all-metal design . . . every thread works, including those in locking section
- Serve as locknuts or stopnuts
- Sizes #0-80 through #4-40 in alloy steel, stainless, aluminum, brass

See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division **sps**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-421 C1 on enclosed inquiry slip

YOUR BEST MOVE IS TO MOVE WITH **MERRILL** MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

Over 25 Material Handling Devices described in our catalog C-3. *Ask for a copy.*

HORIZONTAL PLATE CLAMP Rated capacity — 3 ton (6 tons per pair). Completely drop forged . . . Heat treated.

MERRILL BROTHERS
Producers of Drop and Press Forgings
56-13 Arnold Ave., Maspeth, N. Y.
1-60A

For more details circle NED-422 C1 on enclosed inquiry slip

2568

REMOVE MOISTURE *from*

COMPRESSED AIR LINES

Air operated tools, instruments and controls demand air that is

COOL CLEAN & DRY

and the

MURPHY AFTERCOOLER SYSTEM GUARANTEES IT!

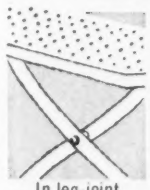
Write now for FREE Data Sheet No. 2568.

JAMCO

JAS. A. MURPHY & CO., INC.
1419 EAST HIGH STREET, HAMILTON, OHIO

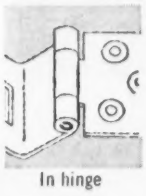
For more details circle NED-423 C1 on enclosed inquiry slip

Use it as a hinge pin... SEL-LOK spring pin



In leg-joint of ironing board

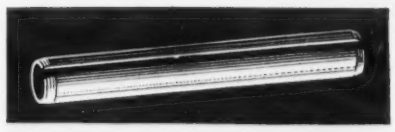
On valve handle



In hinge

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 4 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2670.



INDUSTRIAL FASTENER Division **sps**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-424 C1 on enclosed inquiry slip

Arno® STRAPPING TAPE saves BUNDLING TIME

The fast, easy way to bundle for shipping or handling. Arno Strapping Tape is quick to apply, simple to remove—yet holds securely. High tensile strength (210 lbs./inch width) of the rayon reinforcement and strong adhesion of the pressure-sensitive adhesive also make this tape a time-saver for packaging and palletizing.

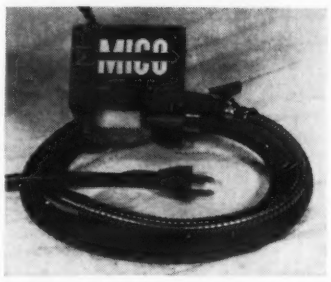
WRITE FOR FREE TEST SAMPLE

Manufacturers Agents Wanted for Some Selected Areas

Arno® ADHESIVE TAPES, INC.
Dr. Scholl's Adhesive Tape Division
5217 OHIO STREET, MICHIGAN CITY, INDIANA

For more details circle NED-426 C1 on enclosed inquiry slip

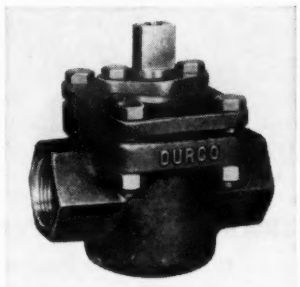
COOLANT PUMP
submersible type for machine tools



Electric motor driven impeller type Mico coolant pump will operate efficiently while partly or completely submerged. The high torque motor is enclosed and sealed in oil. Particularly suited for machine tool coolant service, it pumps to within 1/8 in. of the bottom. It has a 4-ft three-wire conductor for 115-v use, 4-ft of coolant hose with cut-off valve, and 1 ft of Sta-put flexible tubing. • **Mico Development Co.**, 4400 Pennwood Rd., Brentwood, Md.

For more details circle NED-428 C1 on enclosed inquiry slip

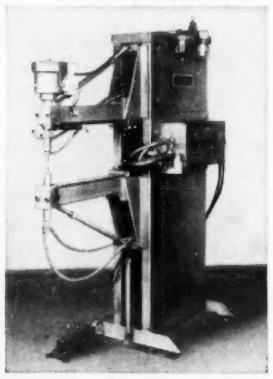
NONLUBRICATED PLUG VALVE
for use in corrosives service



Available in ductile iron, carbon steel, 316 stainless steel, Durimet-20, Monel, nickel-Chlorimet-2, and Chlorimet-3 constructions, Sleeveline plug valves handle a wide range of fluids including corrosives. They are made in 1/4 to 6-in. sizes. A Teflon sleeve between the plug and the valve serves both as a lubricant and sealing medium. Adjustments are made easily for sleeve wear. Valves require no lubrication. • **Duriron Co.**, 450 N. Findlay St., Dayton 1, Ohio.

For more details circle NED-429 C1 on enclosed inquiry slip

SPOT WELDER
has 12 to 36-in. throat depth



Operating on 80-psi line pressure and developing a clamping force of 1950 lb, this foot-controlled economy model spot welder handles work thicknesses from 22 gage to 1/8 in. The air valve is integrally mounted with a 5-in. double-acting cylinder. Application versatility is achieved with outboard mounted stacked core transformers, available in a 20 to 75-kva range. Spot welding of aluminum is possible with a high voltage transformer. Machine has rapid stroke action, and its throat depth is adjustable from 12 to 36 in. Throat height is variable from 12 to 18 in. • **Viking Products Co.**, 915 Oakland Ave., Pontiac, Mich.

For more details circle NED-430 C1 on enclosed inquiry slip

GET THIS FREE LUBRICATION GUIDE

Modern Farval Centralized Lubricating Systems can drastically cut your production costs in the following ways:

- SAVES TIME
- SAVES MANPOWER
- SAVES POWER CONSUMPTION
- SAVES BEARINGS
- SAVES LUBRICANT

This new Bulletin 26-T contains 20 colorful pages that graphically show the complete Farval line and how these versatile lubricating systems can fit into your production picture.

Farval Division
Eaton Manufacturing Company
3283 East 80th Street
Cleveland 4, Ohio

For more details circle NED-432 C1 on enclosed inquiry slip

COMPLETE STORY ON MATERIAL-LEVEL INDICATORS ...FREE!

Bulletin describes models for general purpose and hazardous dust locations in bins and silos

Write for this bulletin with illustrations, descriptions and specifications on Fuller Material-Level Indicators.
They show and maintain the level of materials in bins or silos, by starting or stopping the equipment-drive motors of feeders, valves, elevators and conveyors when a predetermined material level is reached.
They assure true indication, regardless of surges or settling of materials—also long service without attention or repairs.
Write for Bulletin I-5-C. 2616 I-8

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller — pioneers in harnessing AIR

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout the World
See Chemical Engineering Catalog for details and specifications

For more details circle NED-433 C1 on enclosed inquiry slip

so quiet...

. . . not even a purr! It's this traditional quietness of Hoover ball bearings that best demonstrates *Hoover Quality* . . . your assurance of longer life, superior performance.

When specifications call for the finest, specify *Hoover Quality* bearings. Contact your local Hoover bearing specialist, listed in your Yellow Page Directory, or write to us.

hoover
BALL AND BEARING COMPANY
5400 South State Road, Ann Arbor, Michigan

Zone Sales Offices and Warehouses: 8581 South Chicago Ave., Chicago 17, Illinois; 290 Lodi Street, Hackensack, New Jersey; 2020 South Figueroa, Los Angeles 7, California

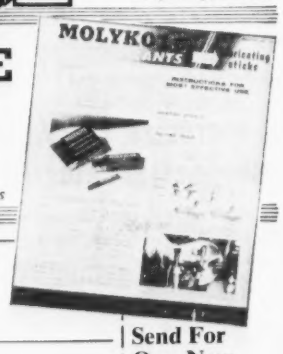
Hoover Ball and Bearing Company NED-3
5400 South State Road, Ann Arbor, Michigan
Please send me Bulletin 110 which describes Hoover's full line of deep groove ball bearings.
Name _____
Title _____
Company _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-427 C1 on enclosed inquiry slip

NEW!

Molybdenum Disulfide Pressed into a Crayon-Type Stick

MOLYKOTE *Lubricating Sticks*
Ideal for many rub-on applications



The Alpha-Molykote Corp. NED-3
Stamford, Conn.
Please send me your Bulletin 128.
NAME _____
COMPANY _____
ADDRESS _____
CITY _____
ZONE _____ STATE _____

Send For Our New Bulletin 128 On Molykote Lubricating Sticks

THE ALPHA-MOLYKOTE CORP
Stamford, Conn.

For more details circle NED-431 C1 on enclosed inquiry slip

Now! MARK NAME PLATES 5 TIMES FASTER ...*and* SAVE...SAVE...SAVE!

WITH *Automark*® ELECTRIC TAG MARKING TYPEWRITER

MODEL EMT-2

A NEW ERA IN NAME PLATE MARKING

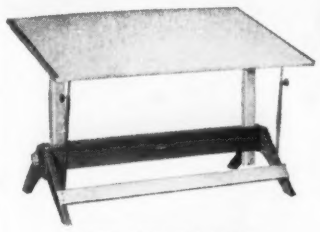
Just a touch of the finger delivers up to 2 TONS pressure for deep, legible impressions on metal or plastic tags. Standard electric typewriter keyboard—over 100 characters a minute. A modern marvel!

SEND NOW FOR BULLETIN

DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

For more details circle NED-434 C1 on enclosed inquiry slip

MAYLINE



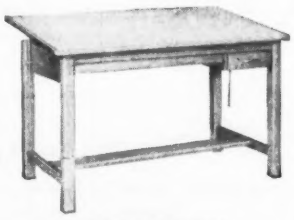
V-MODEL PEDESTAL TABLE

Economical Drafting Tables of Wood!

For efficient, sturdy, economical, long lasting wood drafting tables investigate Mayline products. Tables are both attractive and practical. They are sturdily built of Oak, with solid Basswood steel end cleat tops, which can be tilted thru an angle of 50 degrees.

Prices for the V-Model pedestal tables start at $65.55, and $98.25 for the 4-Post tables. Your local dealer can tell you more about these fine drafting tables.

MAYLINE CO., INC.
617 No. Commerce St.
Sheboygan, Wisconsin



WOOD 4-POST TABLE

MAYLINE

▲ For more details circle **NED-435 C1** on enclosed inquiry slip ▲

MITY-MIDGET

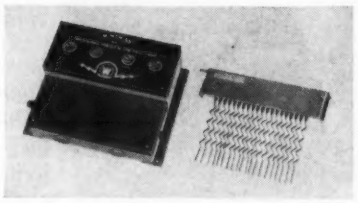
Cut sanding costs as much as 75% (over hand sanding), with National's Mity-Midget . . . the original orbital action sander. Weighs only 4 lbs . . . yet has 25 sq. in. of abrasive area. Powerful . . . vibrationless. Write for complete catalog, today.

NATIONAL N D DETROIT

Write for complete catalog
NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

▲ For more details circle **NED-436 C1** on enclosed inquiry slip ▲

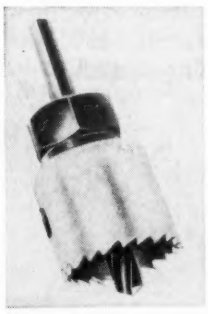
MISSING PARTS DETECTOR
protects dies and machinery



High impedance feeler assembly of the Model PD-510D missing parts detector is unaffected by water or oil. Device automatically detects nonejection, misfeeding, buckling, end of material, and overloading of machines, stopping equipment instantaneously to protect expensive dies and machinery. Price is $285. • **Industrionics Controls, Inc.**, Wintriss Controls Div., 20-24 Vandam St., New York 13, N. Y.

▲ For more details circle **NED-438 C1** on enclosed inquiry slip ▲

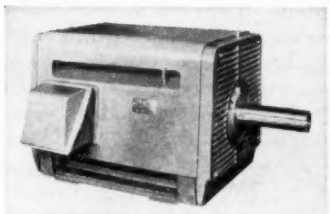
HOLE CUTTING SAWS
cut wood, metal, and plastic



Star Speedi-cut hole saws are capable of cutting through two or more walls, partitions, or stacked material when used in electric drills, lathes, and drill presses. They cut holes up to 7/8 in. deep in wood, metal, plastic, and composition board. Holes made with a 1/4-in. portable electric drill can be extended to 1 1/8 in., with a 3/8-in. drill to 1 1/2 in., and with a 1/2-in. drill to 2 1/2 in. Line includes sizes from 5/8 to 2 1/2 in., all with knock-out holes for quick removal of cores. The 5/8-in. size has a built-in mandrel, while the other sizes are interchangeable with mandrels of various makes. • **Victor Saw Works, Inc.**, Middletown, N. Y.

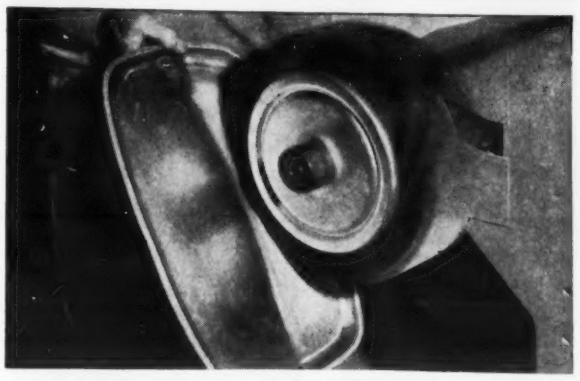
▲ For more details circle **NED-439 C1** on enclosed inquiry slip ▲

AC MOTORS
redesign reduces over-all size



Placing a round stator inside the nearly square frame of Duty Master D-5000 alternating current motors results in better cooling and a smaller over-all dimension for any given horsepower rating. Ratings range from 125 to 300 hp. Air drawn in through the louvered air intakes in each end is ducted through the rotor and stator, then exhausted at the sides. Motors have Class B insulation, frames and end louvers of cast iron, and sleeve or ball bearings. Dripproof enclosure is standard, and splashproof can be specified. Encapsulated stators are also available. Ratings of 220, 440, or 550-v ac are available for 3600, 1800, 1200, or 900-rpm operation. Fan-cooled design will be available soon. • **Reliance Electric & Engineering Co.**, 24701 Euclid Ave., Cleveland 17, Ohio.

▲ For more details circle **NED-440 C1** on enclosed inquiry slip ▲



FOR A FAST, EASY, ECONOMICAL FINISH

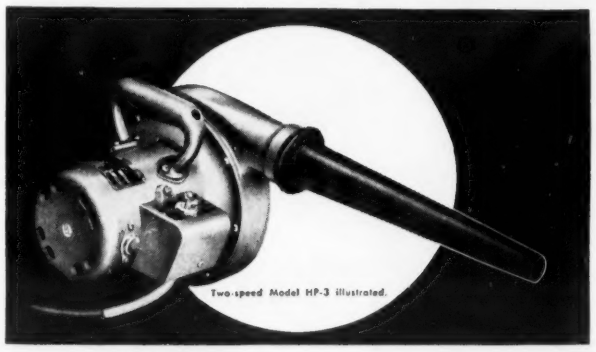
The Vonnegut Brush-Backed Polishing Head is an indispensable item for finishing, be the problem a decorative satin, pre-buff operation or surface preparation for paint. The Vonnegut Head will clean, sand, blend, polish and deburr a variety of materials—wood, rubber, plastics, ferrous and nonferrous metals—both plain and contoured surfaces. Ask for Price List and Bulletin No. 102.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2530-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

▲ For more details circle **NED-441 C1** on enclosed inquiry slip ▲

CLEAN EVERYTHING

CLEAN EVERYWHERE



CLEMENTS **Cadillac® QUIK®-VAC**

BLOWER/SUCTION CLEANERS

4 MODELS TO CHOOSE FROM!

HP3
2-speed motor makes quick work of any cleaning job.
Easy starting from low-speed position on switch prevents blowing of fuses.

G12
A heavy duty unit built to give you faithful service but without the 2-speed motor features of the Model HP3.

F10
A medium duty unit designed for jobs where a lighter weight takes precedence over volume of air delivered.

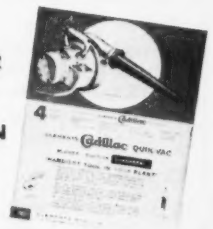
AY7
A light duty unit used in many applications for which a small volume of air is adequate.

Small wonder Clements-Cadillac combination blower-suction cleaners have so often been called "the handiest tool in the plant." They solve such a broad variety of cleaning problems—quickly, thoroughly and safely with an enormous saving of time and effort.

They also handle many special jobs such as the collecting of dust, the supplying of vacuum or dry air blast at specific operations, the reclamation of rare metal chips at point of generation, and many other uses.

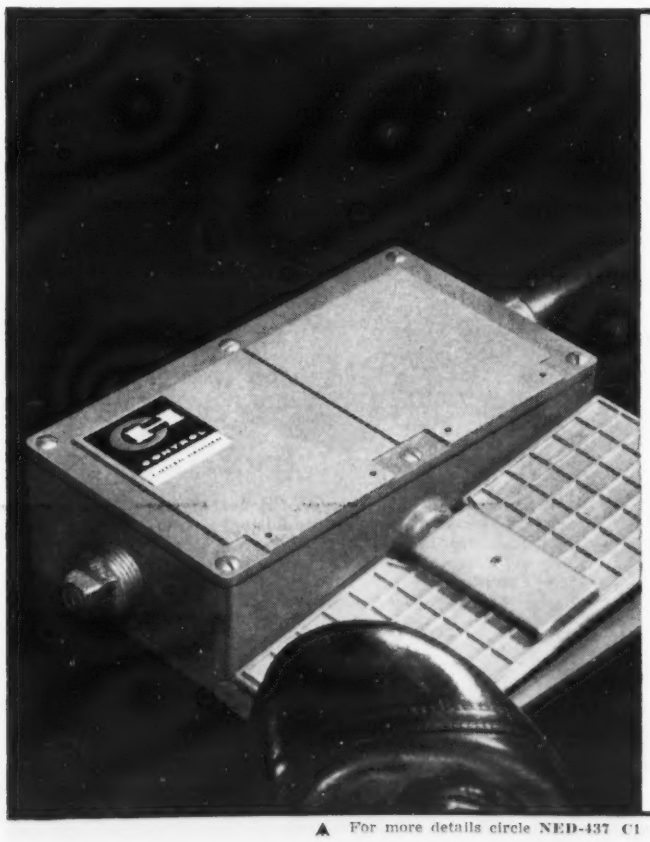
By eliminating dirt, Clements-Cadillac blower-suction cleaners promote the health and safety of workers. They boost employee morale too, by making cleaning jobs easy and good maintenance a regular practice.

ASK FOR NEW BULLETIN TODAY



SINCE 1910
Industrial Products Division
CLEMENTS MFG. CO.
6627 South Narragansett Ave.
Chicago 38, Illinois

▲ For more details circle **NED-442 C1** on enclosed inquiry slip ▲



CONTROL

New! A rugged line of versatile foot switches from Cutler-Hammer

These new foot switches can be stepped on, kneed, elbowed, palmed. You design them in—they'll improve operations. Same high quality in these foot switches you find in all Cutler-Hammer motor control. You get versatile operation, too. The heavy duty, side treadle switch has three interchangeable operating arrangements that can be changed easily just by changing position of a nylon cam.

Find out about the heavy-duty side treadle switch, standard-duty switch, palm switch and heavy-duty treadle switch. Send for Pub. LO-91-E251.

WHAT'S NEW? ASK . . .
CUTLER-HAMMER
Cutler-Hammer, Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer, Mexicana, S. A.

▲ For more details circle **NED-437 C1** on enclosed inquiry slip ▲

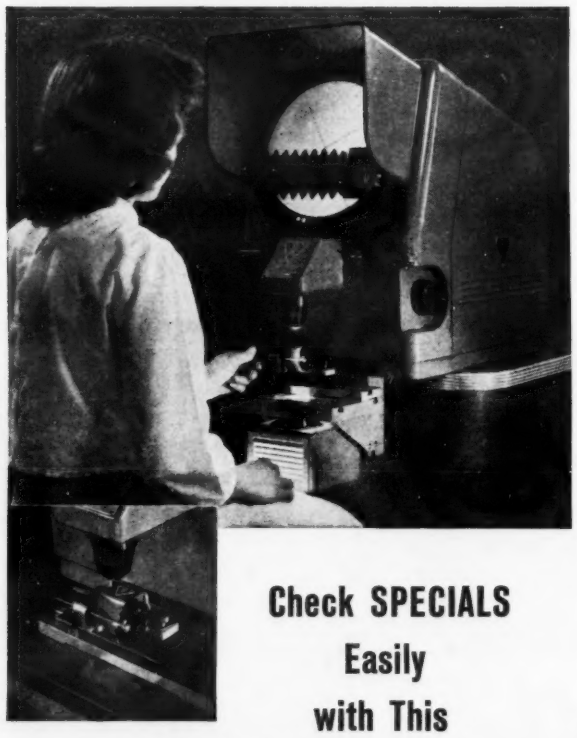
NEW ROTOR Airiter
saves time on all marking jobs

This new Rotor marker has been proven in scores of shops on parts and tools of all sizes...materials of all kinds. Users report it outperforms other air markers and other marking methods in ease and speed. Its fine control, with throttle located *on the tool*, adjusts its speed and depth of mark easily to suit every job. Short-stroke carbide stylus makes up to 12,000 blows per minute. Will not stall while writing.

Try it in your shop and see how it writes circles around other methods! Write for Bulletin AR-2. *The Rotor Tool Company, 26331 Lakeland Blvd., Cleveland 32, Ohio. Subsidiary of The Cooper-Bessemer Corporation.*

ROTOR TOOLS

For more details circle **NED-443 C1** on enclosed inquiry slip



Check SPECIALS Easily with This New Universal Staging Fixture

There's a new Universal Staging Fixture to position just about *any* part up to 3 inches in length. Mount the part and see the sharp image on the distortion-free 10-inch screen.

So easy, unskilled help can learn it in less than half a day. Other big savings, too ... extremely low purchase price, *plus* almost unlimited versatility. With your choice of understage and surface illumination, and the new Universal Staging Fixtures, you can just about write off special jigs and fixtures as a cost factor.

Find out more about how B&L can simplify your precision inspection. There's a complete line of instruments to help you. Mail the coupon now.

BAUSCH & LOMB

BAUSCH & LOMB INCORPORATED
72715 Bausch St., Rochester 2, N. Y.

Please send literature on:

- ☐ Bench Comparator, D-297
- ☐ Universal Staging Fixture, D-2007
- ☐ Toolmakers' Microscope
- ☐ StereoZoom Microscopes, D-15
- ☐ Scratch Depth Gage, D-2004
- ☐ Optical Aids, D-1059

NAME .....

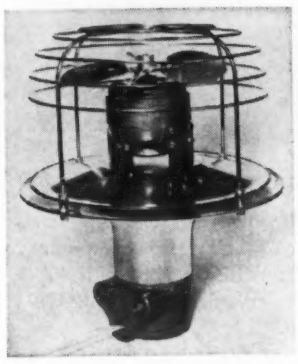
COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

For more details circle **NED-444 C1** on enclosed inquiry slip

STEAM HUMIDIFIER
holds desired level automatically

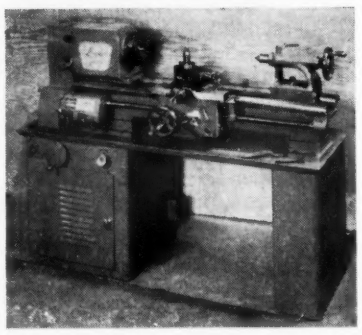


Simple and easy to install, Steamette humidifier maintains selected humidity levels accurately. It discharges steam vapor in a full-circle radial pattern, or portions of this discharge can be blocked off to cover any area. This corrosion resistant unit is merely connected to existing steam and electric lines. It uses an atmospheric drain, and its design permits re-evaporation of steam condensate during the operating cycle. A drain line is used only on start-up. It is normally supplied with a solenoid valve assembly including a strainer, pressure gage, and gate valve, plus the automatic control. It operates from 2 to 30 psi steam and 115-v ac. Up to six humidifiers can be served by a single humidity control unit.

• **Bahnson Co.**, 1053 Marshall St., Winston-Salem, N. C.

For more details circle **NED-445 C1** on enclosed inquiry slip

14-IN. SWING LATHES
have center distances of 28 in.



Variable speed drive which provides a 40 to 1400-rpm speed range and instant adjustment without belt shifting is featured on series of 14-in. swing lathes. The hardened and ground steel spindles have a 1 3/8-in. hole, a draw-in collet capacity of 1 1/16 in., and turn on four sealed and shielded ball bearings. Lathes have a 14 5/8-in. swing over beds, 9-in. swing over saddle cross slides, center distances of 28 in., and two precision ground V-ways and flat ways. Models are offered with 2 1/4-in.-8 thread spindle and L-00 spindles, and either standard or hardened beds.

• **Logan Engineering Co.**, 4901 W. Lawrence Ave., Chicago 30, Ill.

For more details circle **NED-446 C1** on enclosed inquiry slip

Grinding Wheel Shapes & Sizes

Grinding Wheel Institute—40-page "American Standard Specifications for Standard Shapes and Sizes of Grinding Wheels" classifies according to twelve end uses the shapes and sizes of standard wheels. A shape and size of wheel is included only after determining on the basis of sound engineering practice whether or not it performs the job for which it was intended.

For more details circle **NED-447 C1** on enclosed inquiry slip

STOP DRILLING MASONRY
THE HARD WAY!

SWITCH TO
Cyclo-twist Rotary Carbide-Tipped
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Designed and Engineered
5 WAYS BETTER for FASTER, EASIER DRILLING in TILE • BRICK • CEMENT
Holes 7/64" to 1½" diameter

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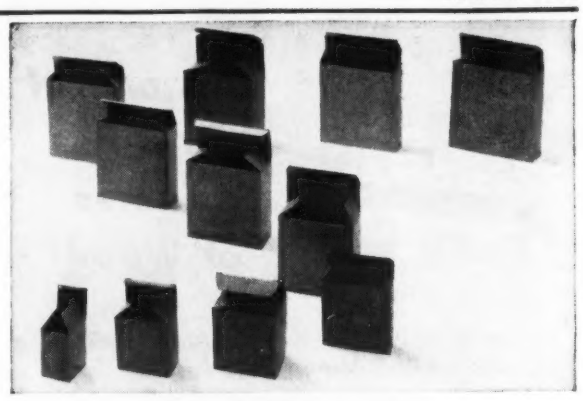
Switch today to Cyclo-twist Bits. Your supplier has them or will get them.

Write for your FREE copy of our "MASONRY BIT SELECTOR GUIDE."

NEW ENGLAND CARBIDE TOOL CO., INC.
55V Commercial Street Medford 55, Mass.

For more details circle **NED-448 C1** on enclosed inquiry slip



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from 7/8" x 7/8" x 1" up to 5¾" x 5¼" x 7".

Ask for free samples, with sizes and price list.

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STONE CONTAINER Corporation
Campbell Division
903 S. Main St., South Bend 23, Ind.
General Offices: 4200 W. 42nd Place, Chicago 32, Ill.

* Stone Packaging And Research Know-how

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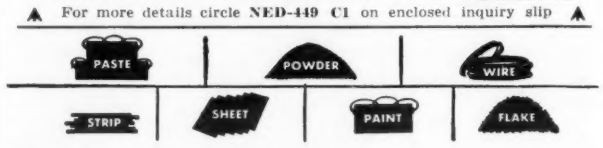

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We have five Technical Bulletins giving engineering data on the properties and forms of Handy & Harman Silver Alloys. We would like you to have any or all of those that particularly interest you. Your request, by number, will receive prompt attention.

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- Silver-Copper Alloys ..... Bulletin A-2
- Silver-Magnesium-Nickel ..... Bulletin A-3
- Silver Conductive Coatings ..... Bulletin A-4
- Silver Powder and Flake ..... Bulletin A-5

Your No. 1 Source of Supply and Authority on Precious Metal Alloys

HANDY & HARMAN
General Offices: 82 Fulton St., New York 38, N. Y.

For more details circle **NED-450 C1** on enclosed inquiry slip

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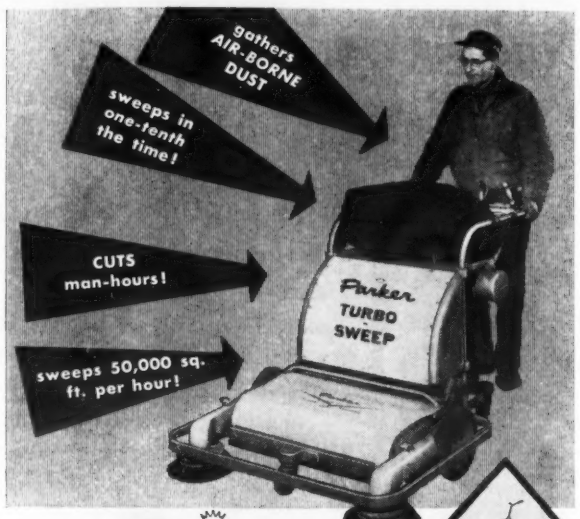
WHY **IDEAL** AUTOMATIC STENCILING CUTS SHIPPING COSTS:

- Automatic character, word and line spacer increases speed and production.
- Saves at least 20% in stencil board.
- Cushioned hand wheel and handle, safety hood and other features make the Ideal easier to use—saving labor costs.
- Exceptionally long life—many Ideals have been in service over 20 years.

for free trial: SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

IDEAL STENCIL MACHINE CO.
102 Iowa Ave., Belleville, Illinois

For more details circle **NED-451 C1** on enclosed inquiry slip



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Faster cost-cutting sweeping for every phase of plant operation, loading docks, parking areas! 40′ sweep, yet maneuvers in 4½′ radius. Dust bag, hopper, empty in seconds. *By the makers of famous Parker Lawn Sweepers.*

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PARKER SWEEPER COMPANY • SPRINGFIELD, OHIO

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FAST – EASY – ECONOMICAL

Put it to work anywhere! On the level . . . on the incline . . . for all kinds of packages . . . light weight aluminum . . . one man can move it easily . . . plug it into any 110-120 V. outlet . . . *low cost, rugged, high speed* . . . ideal for stand-by or production. ONLY $461.00 for 12-foot model shown. 16- and 20-foot models plus extra accessories are available.

- Powerful
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Prices F.O.B. Morton Grove plus state taxes.

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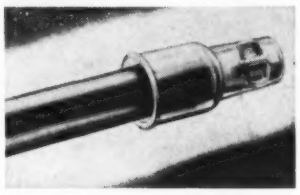
Phone Chicago—JU 8-0200

The complete line of custom and pre-engineered conveyor systems

For more details circle NED-453 C1 on enclosed inquiry slip

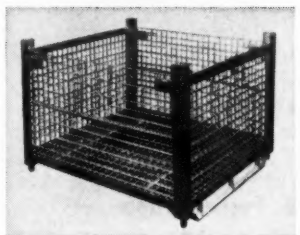
PRE-INSULATED SPLICE CAP
joins wide range of wire sizes



Wide range of wire sizes is pigtail spliced with this Wide-Range pre-insulated splice cap using one size of ratchet-controlled tri-SURE-tool. Tool crimps through the nylon without weakening its insulating qualities. Extra long skirt assures maximum short-circuit protection. Cap can be used for 2 to 6 stranded, 3 to 5 No. 18 solid, 2 or 3 No. 16 stranded or solid, two No. 14 stranded or solid, and one No. 12 with one No. 14 or equivalent wire combinations. Both pneumatic and hand crimping tools are available. Caps are UL-listed for 600-v service on building wire and 1000 v in fixtures, to 105° C. • **Buchanan Electrical Products Corp.**, Route 22, Hillside, N. J.

For more details circle NED-455 C1 on enclosed inquiry slip

WIRE CONTAINER & RACK
shipping-storage unit holds 6000 lb



Model 600 Wire-Tainer is a combination heavy duty wire container and storage rack with 6000-lb capacity. The rigid container is designed for stacking, affords visible inventory check, is self-cleaning, and is suitable for shipping either by rail or truck. It is available with or without drop sides and has fabricated steel corner posts, frame, and runners. Sides and bottom are woven from No. 2 and 2/0-gage steel wire into a 2 x 2 mesh, welded at all joints. Dip aluminum finish wards off rust. Container is made in 48 x 53 x 38 and 42 x 53 x 38-in. sizes. • **Springport Steel Products Co.**, Springport, Mich.

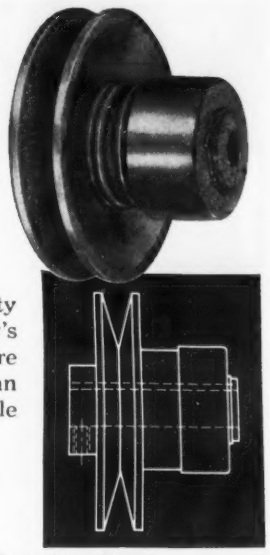
For more details circle NED-456 C1 on enclosed inquiry slip

TEMPERATURE CONTROLLER
is accurate within ±0.25° F

By adjusting the 3-digit 1000-part dial of this Model JY digital set point controller, the control point can be set in increments of 0.5° F and sensitivity is within 0.25° F. Available in single, dual, or triple range models for temperature or millivolt calibration, units have continuous cold junction compensation. These solid state controllers are made in on-off, proportioning, and stepless control modes. • **West Instrument Corp.**, 4363 W. Montrose Ave., Chicago 41, Ill.

For more details circle NED-457 C1 on enclosed inquiry slip

new... Vari-Speed Pulleys



Specially Designed for Competitively Priced Equipment...

The price is right. Quality is in keeping with Lovejoy's standards. You'll get more pulley per unit cost than any other in a comparable price range.

Features Include:

- High ratio for small face diameter
- Smooth pulley faces—no interlocking fingers
- Infinitely variable over full speed range
- Compact, lightweight construction

Sizes range from fractional to 1 hp., ratios to 2.8 to 1.

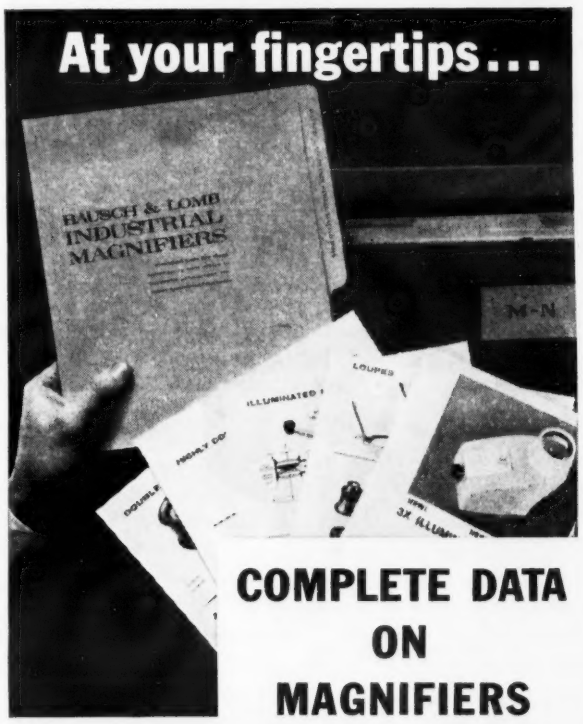
Lovejoy FIRST NAME IN VARI-SPEED

Request OEM Series Bulletin 701. Ask for recommendations on your application.

LOVEJOY FLEXIBLE COUPLING CO.
4803 W. Lake St. • Chicago 44, Ill.

For more details circle NED-458 C1 on enclosed inquiry slip

At your fingertips...



COMPLETE DATA ON MAGNIFIERS FROM BAUSCH & LOMB

The new Bausch & Lomb Industrial Magnifier File gives you complete information on every type of magnifier. You'll find data on Vernier Magnifiers, pocket magnifiers, measuring magnifiers, watchmakers loupes, illuminated magnifiers, double lens magnifiers, Hastings triplet and Coddington magnifiers as well as many others. Also, basic facts about magnifiers and how to use them most effectively are included. Now you can have full data on these valuable tools in one convenient source . . . and there's no finer source than B&L for this equipment. Fill out the coupon below and receive your *free* copy of the new Bausch & Lomb READER AND MAGNIFIER FILE.

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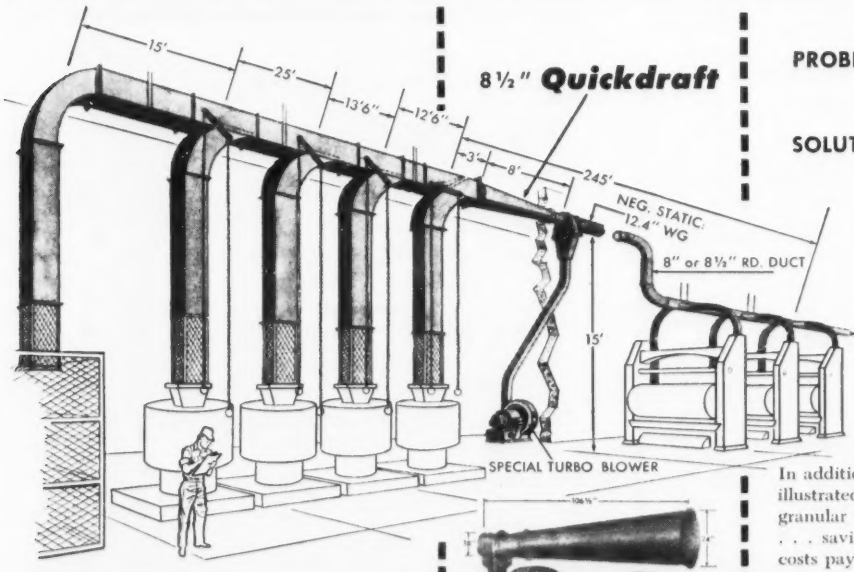
CITY _____ ZONE ____ STATE ____

For more details circle NED-459 C1 on enclosed inquiry slip



PROBLEM: High speed removal and disposal of paper trim

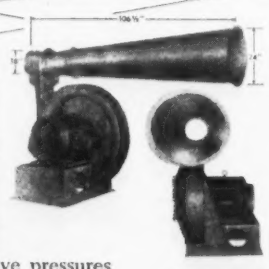
SOLUTION: *Quickdraft* VACUUM SYSTEM

VELOCITY: 7,016 FPM.
NEG. STATIC, WITH DUCT CLOSED: 19.2″ WG

Quickdraft high-pressure vacuum systems have proven extremely successful, efficient and economical in solving materials handling problems. In addition to paper or plastic film trim, the system illustrated could convey any bulk, powdered or granular material that can be moved by air. And . . . savings in labor, down-time and replacement costs pay for *Quickdraft* units in 12 to 24 months!

Quickdraft units also are used for industrial exhaust systems and to increase combustion efficiency in all types of heating plants.

For recommendations on materials handling, please furnish sample of material, distance material to be moved and sketch of proposed installation.



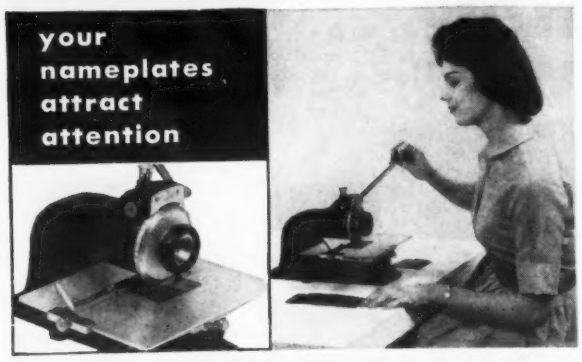
Schematic of an actual installation in which 3″ and 4″ paper trim of 140 lb. basis weight (Ream 25 x 38) is continuously removed and conveyed to one of four hydro-pulpers or to screen container by an 8½″ *Quickdraft* unit.

Quickdraft units with extremely high negative pressures are available in 4½″ to 30″ diameters in plastic-coated steel, No. 316 Stainless Steel or rigid plastics for corrosion resistance.

Patents 2,722,372 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

Quickdraft CORPORATION
P. O. BOX 87-L
CANTON 1, OHIO
9012-QD

For more details circle NED-454 C1 on enclosed inquiry slip



Mark Them on the GTS Nameplate Detail Press for Neatest Appearance and Easy Reading

Your nameplates represent you . . . they're your Silent Salesmen. With the GTS Nameplate Detail Press you'll always get sharp permanent nameplate marking . . . that anyone can read at a glance. Never a *blur* on nameplate surfaces.

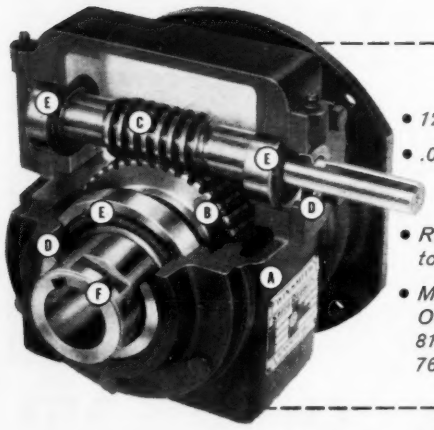
Automatic spacing, alignment and depth can't vary, unless you change the setting.

You'll find the GTS Nameplate Detail Press a dependable, easy-to-use tool. It's the original, designed and built by GTS. WRITE . . . WE'LL SEND COMPLETE DETAILS.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine, Chicago 13, Ill.
IF IT'S WORTH MAKING, IT'S WORTH MARKING

▲ For more details circle **NED-460 C1** on enclosed inquiry slip ▲

Winsmith **HOLLOW SHAFT** worm gear speed reducers



- *12 Models*
- *.041 to 8.82 hp.*
- *Ratios 7½:1 to 4466:1*
- *Maximum Output Torque 816 to 7678 in. lbs.*

A. Cast Iron Housing—for high heat radiation, maximum strength and rigidity.

B. Special Bronze Worm Gears—for high strength and cooler, more efficient operation.

C. Case Hardened Steel Worms—cut integral with the shaft. Meet AGMA long-wear specifications.

D. Positive Oil Seals—keep oil in, dirt out. Shafts lapped for longer seal life.

E. Tapered Roller Bearings—for minimum maintenance, long bearing life, permanent shaft alignment.

F. Hollow Slow Speed Shafts—in wide range of standard bore sizes. Mounts on shaft of driven machine *without bushings*.

Winsmith Hollow Shaft Speed Reducers cover a broad range of power transmission requirements for both single and double reduction drives. They are available in both torque arm and flange mounted models and *their worm gearing permits much higher reduction ratios than are possible with other types of gearing, in comparable size units.* Winsmith Hollow Shaft models are designed for all applications where it is advantageous to mount the reducer on the shaft of the driven machine. They are compact, easy to install and require less space than conventional units. Their design and construction provide a high degree of standardization which eliminates excessive special application engineering.

WRITE TODAY for complete information or call your nearest Winsmith Representative listed in the Yellow Pages. For both standard and special power transmission applications, you'll find it pays to standardize on Winsmith.

WINSMITH SPEED REDUCERS ®
MEMBER OF AGMA

WINSMITH, INC.
216 Eaton St., Springville, (Erie County), N. Y.

• Winsmith Speed Reducers are made by American craftsmen to meet American design and production standards.

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MAN-COOLING SUIT for use in high ambient heat

Natural cooling processes, including the evaporation of perspiration and the introduction of cool air, enable the wearer of this air conditioned suit to work full 8-hr shifts in ambient temperatures in excess of 120° F with only normal lunch breaks. The wearer is protected from his own body heat build-up or when encased in impermeable protective clothing. Air is delivered through a central hose to the space between two layers of vinyl film and is equally distributed to all parts of the suit. Minute holes in the inner layer deliver ventilating air against the wearer's body. Suit is worn over inner clothing such as long underwear. A protective coverall or aluminized clothing is worn over the ventilating suit. Silencing air inlet throttles 120-psi plant air to as low as 1/27 psi into the suit. • **Fyrepel Products, Inc.,** Box 503, Newark, Ohio.

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AUTOMATIC FLOOR SCRUBBER battery powered twin-brush unit scrubs 29½ in. wide area

Self-propelled, battery-powered Model 730 - B automatic floor scrubber meters cleaning solution, scrubs floor, picks up water, and squeegee - dries in one operation. Unit has two scrub brushes which counter-rotate at 170 rpm to scrub a 29½-in. width, and a 31-in. wide double-bladed squeegee. Floating brush pressure of 90 lb can be increased to 170 lb by hand pressure.

Both solution and recovery tanks hold 16 gal and both have drains. Recovery tank has a large clean-out door and is equipped with vacuum shutoff to protect vacuum motor. The 1.3-hp drive motor is powered by either 275 or 370 amp-hr capacity battery packs which are good for 6 hr of continuous operation. Speeds to 175 fpm are possible. • **Lincoln Floor Machinery Co.,** 518 S. St. Clair St., Toledo 3, Ohio.

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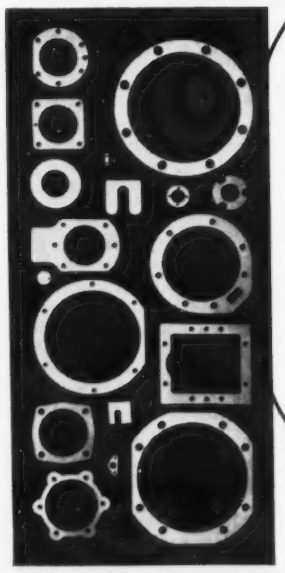
EASY WAY TO CUT COSTS on GASKETS, WASHERS and SHIMS



A wide variety of dies accumulated over more than 50 years of service to industry, enables Chicago-Wilcox to supply many of your gasket, shim and washer needs without a die charge.

Whether you need just a few items or large quantities, these stock dies make it easy for you to save money and get faster delivery. Available in metallic, non-metallic and plastics to meet your production requirements.

Find out about WIL-PAK PLASTIC SHIM STOCK that identifies thickness by both color and gauge number. Write for Bulletin No. 570.

Write for Stock List and Prices.

CHICAGO-WILCOX Mfg. Co.
7713 South Avalon Avenue, Chicago 19, Illinois

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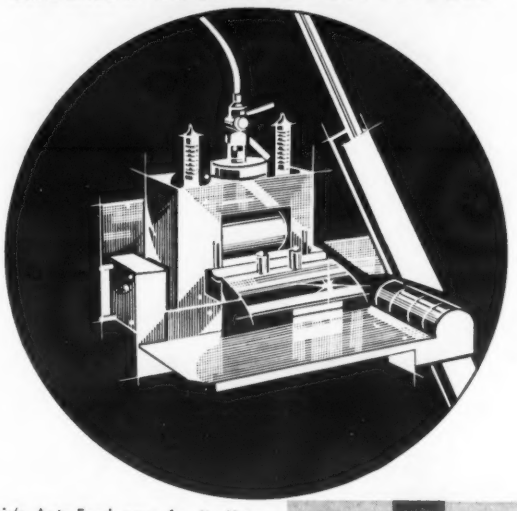
AUTOMATE YOUR PRESS-RITE WITH HAVIR'S LOW COST AUTO-FEED



Havir's Auto-Feed pays for itself in reduced operator time and far faster stamping production. One press operator can run several Auto-Feed equipped presses.

Saves materials and makes more accurate stampings too. For all the facts in detail, write . . .

HAVIR MANUFACTURING CO.
442 Cleveland Avenue
St. Paul, Minnesota

HAVIR

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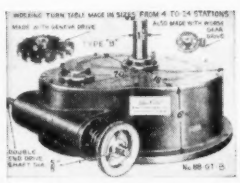
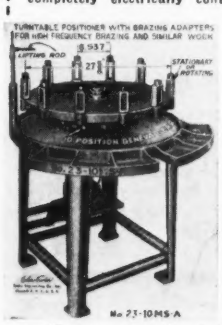
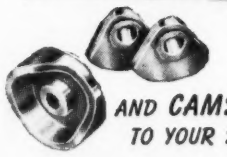
FOR 39 YEARS
We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES
- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. Motorized or hand operated.



Eisler Indexing Turntables are completely electrically controlled





AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J
Charles Eisler, Jr. President

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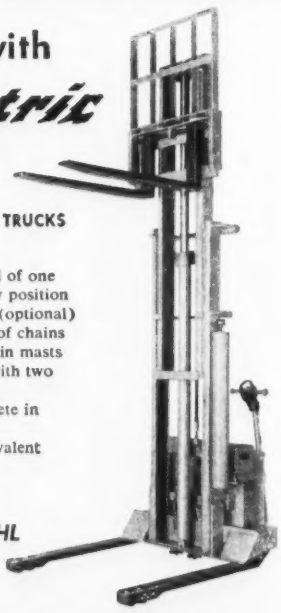
modernize with **HydroLectric**



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- Two driving wheels instead of one
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- Sealed alloy gears instead of chains
- Sealed ball-bearing rollers in masts
- 100% more steering ease with two wheel drive
- Power unit removal complete in 20 minutes
- Greater tire capacity equivalent load ratings

LIFT TRUCKS INC. W.W.W. STUEBING CINCINNATI

Write for Bulletin KHL

A TRUCK FOR EVERY PURPOSE AND MATERIAL

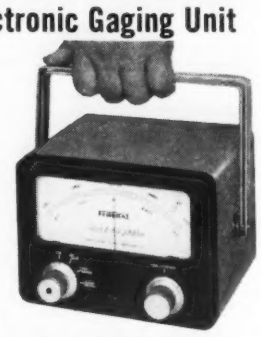
LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

▲ For more details circle **NED-467 C1** on enclosed inquiry slip ▲

electro-probe

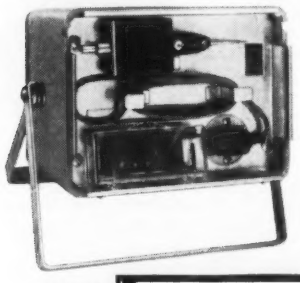
Low Cost, Portable Electronic Gaging Unit

NEW!



Now more compact, more versatile, easier to use. Many new features.

- Feather-light touch
- New contact tip design
- Fast zero-setting



- Battery life quadrupled
- Improved meter visibility
- Completely self-contained

For demonstration or brochure, write

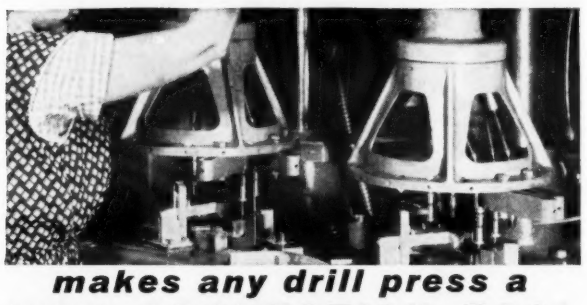
FEDERAL PRODUCTS CORP.
1173 Eddy Street
Providence 1, Rhode Island

Ask **FEDERAL** *First*

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

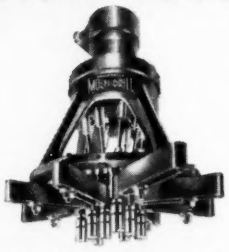
For more details circle NED-468 C1 on enclosed inquiry slip



makes any drill press a

HIGH PRODUCTION TOOL

in minutes!



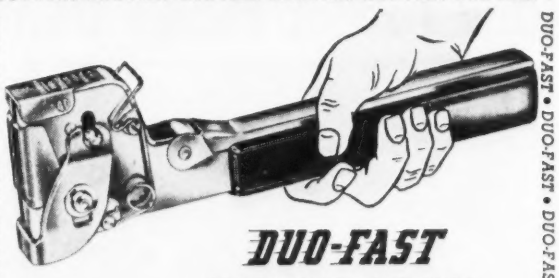
With a MULTI-DRILL, you can go from hole-at-a-time drilling to real production in a matter of minutes! That's all the time it takes to mount any one of the many standard MULTI-DRILL adjustable multiple spindle drill press attachments on any drill press and put you into time and money-saving multiple drilling. Every MULTI-DRILL is quickly adjustable to drill a variety of hole patterns. Every MULTI-DRILL is designed for high production work. To learn how you can profit with a MULTI-DRILL, ask your nearby Commander Distributor to show and demonstrate the unit that meets your job requirements.

Write for the Production Tool Catalog. 109

Commander MFG. CO.
4220 WEST KINZIE • CHICAGO 24, ILLINOIS

For more details circle NED-469 C1 on enclosed inquiry slip

• DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST •



DUO-FAST
HAMMER TACKER

Drives tight-holding staples automatically as fast as you swing it

For fast manual tacking you can't beat DUO-FAST Hammer Tackers. A great tool for 1001 fastening jobs in shipping, packaging and production work.

You'll like the perfect balance and easy one-hand operation. Five fully guaranteed models to drive 3/16" to 9/16" DUO-FAST Staples.

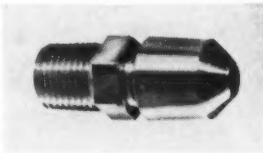
Send today for details on how Hammer Tackers speed and simplify your work.

FASTENER CORPORATION, 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

For more details circle NED-470 C1 on enclosed inquiry slip

DRY ICE MAKER
converts a CO_2 fire extinguisher



Very fine, controllable stream of dry ice with a temperature of $-109°$ F is produced by this jet adapter for converting a CO_2 fire extinguisher for cooling use. Applications for the dry ice maker include chilling tight fitting parts, drilling and threading plastics to avoid gumming, blowing away chips, and many laboratory operations. Price with instructions is $2. • **Rolf Darbo,** Box 2158, University Station, Madison, Wis.

For more details circle NED-471 C1 on enclosed inquiry slip

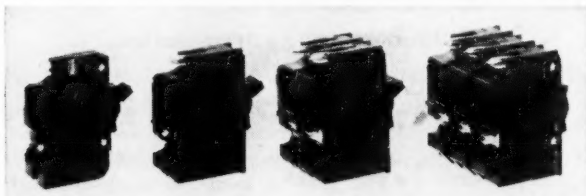
TWO-WAY RADIO
15-w unit operates in two bands

In-plant vehicles and cars and trucks traveling between plants are typical applications for the Pacer two-way industrial radio. The lightweight, compact, 15-w unit operates in low band (27 to 50 mc) and high band (150 to 174 mc), and has VHF-FM audio. It is equipped with 15 tubes and 2 transistors and has a battery drain of 4.2 amp. Control section with a transistorized power supply is adaptable to 12-v negative or positive ground electrical systems. Its 12½ x 7¾ x 4¼-in. size permits under-dash mounting in small vehicles. Weight is 10 lb, including microphone and built-in speaker. Price is $419. • **General Electric Co.,** Communication Products Dept., Lynchburg, Va.

For more details circle NED-472 C1 on enclosed inquiry slip

CIRCUIT BREAKERS
made in 15 to 100-amp ratings

Line of Stab-lok circuit breakers and enclosures is modified to meet 1959 NEC code requirements for noninterchangeability, but does not obsolete existing Stab-



lok installations. Units can be used in old or new devices. Breakers are fitted with steel clips that prevent them from being stabbed in until one or two knock-outs in the enclosure are removed with a special tool. The 15 and 20-amp breakers are installed without use of this tool, but 30, 40, 50, 60, 70, 90, and 100-amp units require its use. Special tool is available only to qualified electrical wiremen. • **Federal Pacific Electric Co.,** 50 Paris St., Newark 1, N. J.

For more details circle NED-473 C1 on enclosed inquiry slip

• DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST •

DUO-FAST
AIR PLIERS

Take this stapler to the work instead of the work to the stapler

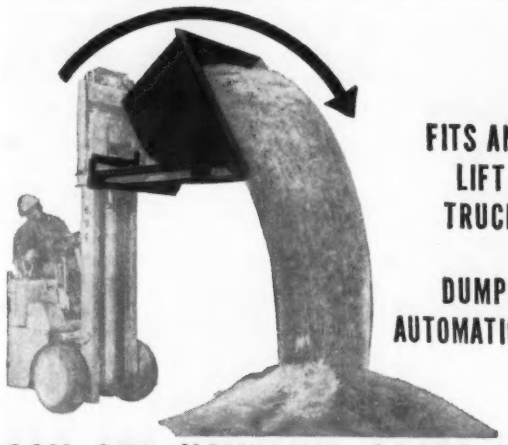
When cartons or other stapling jobs are too cumbersome to take to a stationary stapling machine, DUO-FAST Air Pliers solve the problem. Portable, air-operated, this tool goes anywhere it's needed. Staples cartons and corrugated fillers easily and securely.

Send today for complete information on this portable, cost-cutting stapling tool.

FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

For more details circle NED-474 C1 on enclosed inquiry slip



FITS ANY LIFT TRUCK

DUMPS AUTOMATICALLY

CAN CUT HANDLING COSTS 50%

With this self-dumping hopper one man can do the work of two, in a fraction of the usual time. Attached in seconds to any lift truck. Operator picks up loaded Hopper—transports it—releases latch. Hopper automatically dumps itself, rights itself, locks itself. Eight sizes, ⅓ to 4 yards capacity. Made of 3/16" steel plate, also stainless or galvanized. Standard models shipped from stock. Literature available on request.

ROURA *Self-Dumping* **HOPPER**

ROURA IRON WORKS, INC.
1415 Woodland, Avenue,
Detroit 11, Michigan.

For more details circle NED-475 C1 on enclosed inquiry slip

WEDGMOUNT

ADJUSTABLE MACHINERY MOUNTS

. . . control the vibration of any machine

- Easily installed without bolts or cement
- Wide range of sizes to mount any machine
- Easy leveling adjustment
- Other models for use where bolting to the floor is mandatory, or where mount becomes integral part of machine tool.

Write for full information.

Air-Loc DIVISION

Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

For more details circle NED-476 C1 on enclosed inquiry slip

•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•

NEW *DUO-FAST* STAPLE NAILER

Just a flip of the trigger drives this 2" heavy duty staple

Drives 4 tight-holding staples in less time than it takes to hammer one nail.

Ideal for assembling crates, boxes, frames and expendable skids. Magnesium light...easily portable...a one-hand tool...operates at 60-100 psi. Built-in safety features prevent accidental firing.

Send today for complete details on how this new Staple Nailer cuts packaging and crating costs.

FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

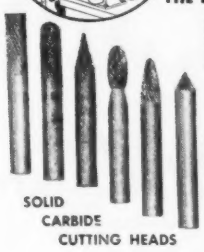
For more details circle NED-477 C1 on enclosed inquiry slip

NEW BALANCED CUTTING ACTION

Severance ECARNO-MILLS

THE ECONOMY MILL NEW DESIGN NEW CARBIDE

Make your money count! Replace more H.S. Rotaries and Mounted Grinding Points.



SOLID CARBIDE CUTTING HEADS

22 Shapes and Sizes Available

A NEW LOW PRICED HIGH CLASS PERFORMER

YOUR SPECIAL DEBURRING PROBLEMS ARE SOLICITED

Made by the originator of ground-from-the-solid Rotary Files, and pioneer in this type of Carbide Mill, who presently offer the largest range of standard types, shapes, and sizes.

OPERATE EFFICIENTLY AT USUAL CARBIDE SPEEDS, YET PERFORM BEAUTIFULLY AT THE SLOWER SPEEDS OF STEEL CUTTERS

PHONE, WIRE, OR WRITE US NOW FOR PRICES

Severance TOOL INDUSTRIES INC.
761 Iowa Ave., Saginaw, Michigan

Ask for a Severance catalog today!

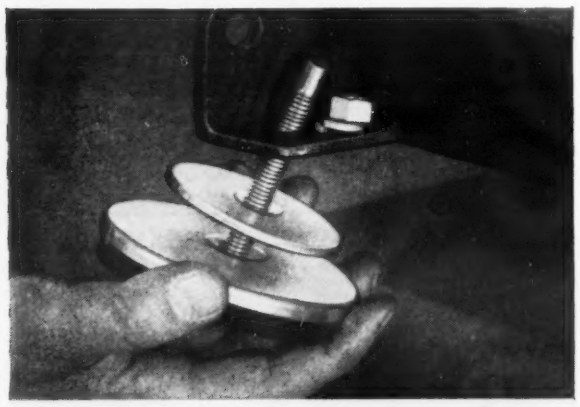
For more details circle NED-478 C1 on enclosed inquiry slip

1. INSTALL MACHINERY FAST
2. LEVEL 3. LICK VIBRATION

NEW LEVEL-RITE SERIES 500

Cut machinery installation time and costs up to 70, 75, even 80% . . . eliminate transmitted vibration up to 85%! That's the money-saving move with Level-Rite Series "500" — latest member of the Unisorb family. No lagging, no cement, no drilling, no "hit or miss" spotting is needed. Unisorb Level-Rite mounting is fast — machines can be moved and relocated quickly and with a minimum of downtime.

Level-Rite Series "500" is a self-contained leveling mount for light and medium duty machine shop tools. It withstands weights up to 750 lbs. Send for literature.



SPECIAL ADVANTAGES: Fast, simplified, precise leveling Free-floating screw post — compensates for uneven floor Safe, sure grip — can be cemented if needed • Lowers noise level — increases worker efficiency • Better machine performance (improved alignment) • Available in many types and thicknesses for all machine types • Money-back trial is yours for the asking.

UNISORB

UNISORB 224 SOUTH STREET, BOSTON 11, MASS.
Division of The FELTERS Company, New York, N. Y. • Chicago, Ill. • Detroit, Mich. • Upper Darby, Penna. • St. Louis, Mo. • Taylor Felt & Supply Co., San Francisco, Calif. • Acorn Mfg. Co., Los Angeles, California.

Please send me a Unisorb Sample and Free Book ☐
Please send literature on Unisorb Level-Rite "500" ☐

Name.....

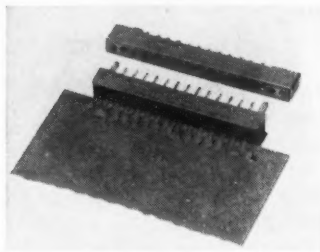
Company.....

Address.....

City.....Zone.....State.....

For more details circle NED-479 C1 on enclosed inquiry slip

PRINTED CIRCUIT CONNECTORS
right angle units with 4-38 contacts



Expanded line of right-angle plug and socket type printed circuit connectors includes various sizes with 4 to 38 contacts. Solder cups, turret terminals, wire-hole solder lugs, or solderless taper pin terminations are available. Machined socket contacts are phosphor bronze with gold plate over silver plate. Available molding compounds include mineral filled phenolic, glass reinforced diallyl phthalate, glass reinforced Plaskon alkyd, and mineral filled melamine. • **DeJur-Amsco Corp.**, Electronics Div., 45-01 Northern Blvd., Long Island City 1, N. Y.

For more details circle NED-480 C1 on enclosed inquiry slip

ACOUSTICAL BOOTH
inside treatment boosts efficiency

High acoustical efficiency of this No. 45 Acousti-Booth is due to special treatment of inside wall and ceiling panels. Voices inside the booth are not heard outside, and outside sounds are muted so that they do not interfere with hearing inside the booth. Used in high noise areas, booth has open construction for free circulation of air. It can be installed either free standing on steel legs or on wall. Wiping with a damp cloth keeps it clean. • **Burgess-Manning Co.**, 757 E. Park Ave., Libertyville, Ill.

For more details circle NED-481 C1 on enclosed inquiry slip

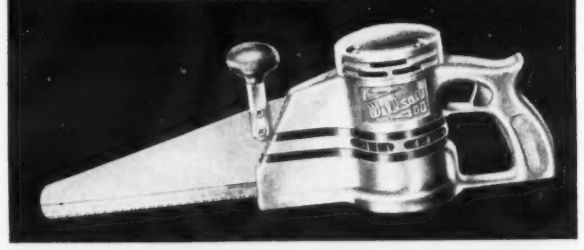
TRACING PENCIL REFILLS
for film tracing reproduction

Offered as a companion to the F.T.R. film tracing reproduction pencil, lead refill marks on polyester-based film. It also can be used for work on cloth and vellum, affording excellent density to give clean microfilms. It is erased without smudging or matte damage. The hang-up plastic tube, clearly marked with one of the six available densities, protects the leads. Free samples are available. • **Joseph Dixon Crucible Co.**, Drafting Research Dept., Wayne & Monmouth Streets, Jersey City 3, N. J.

For more details circle NED-482 C1 on enclosed inquiry slip

MAKE MAINTENANCE, SKIDDING, CRATING, ALL WOOD SAWING JOBS SAFER AND MORE EFFICIENT WITH THE

WELLSAW 400



Here's a new idea in power hand saws that has the versatility to make it the ideal tool for hundreds of jobs in the plant. The Wellsaw 400 is just the good old handsaw with power applied to deliver 8000 1⅛" cutting strokes per minute without kick, pull or whip. Any user can quickly learn to do anything with it he can do with a handsaw. Safe, economical and well built, the Wellsaw 400 is a must for maintenance, crating, skidding, etc. Now available in standard 8" and special 16" capacities. See your dealer or write for descriptive bulletin.

414

Wells SAW SPECIALISTS SINCE 1925

Wells Manufacturing Corporation
1313 Harding Street • Three Rivers, Mich.

For more details circle NED-483 C1 on enclosed inquiry slip

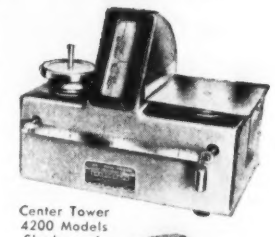
SHADOGRAPH® gives you fast, precision weighing

Shadograph scales offer 50% greater speed than mechanical indicator scales and with visible weight you can read at a glance.

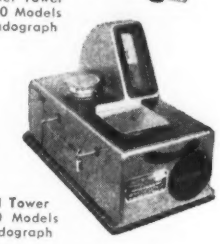
Ultra-visible readings are made possible by sharp shadow-edge indication on an illuminated dial. Parallax is impossible . . . friction is eliminated from indication system . . . and balance comes to rest more quickly.

Shadograph scales, pioneered and developed by Exact Weight Scale Company, are available in 35 models with a range of capacities from 2000 milligrams to 100 pounds. Models are designed for production weighing as well as laboratory use.

Write for Bulletin 3333



Center Tower 4200 Models Shadograph



End Tower 4100 Models Shadograph

Exact Weight SCALES

Find us in your local 'Yellow Pages'

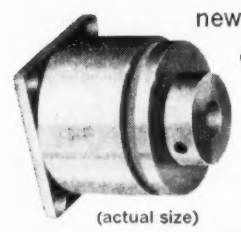
Sales and Service Coast to Coast

THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: 5 Six Points Road, Toronto 18, Ont.

BETTER QUALITY CONTROL...BETTER COST CONTROL

For more details circle NED-484 C1 on enclosed inquiry slip

Warner announces . . . new miniature electric brakes and clutches for low-torque instrument drives



(actual size)

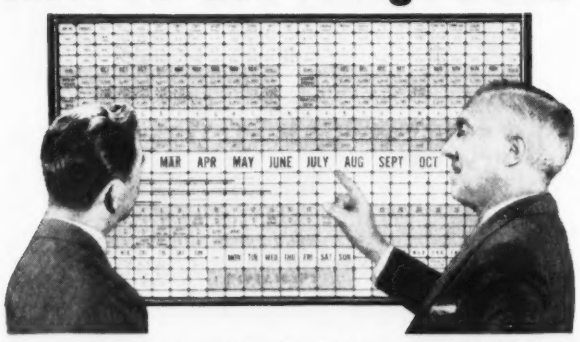
Need automatic control of torque loads up to 1.5 lb-in. for compact instrument drives, aircraft/missiles components, and similar applications? Two-piece floating armature avoids complex alignments, speeds assembly. Ask your Warner representative for a desk-top demonstration of the speed, adjustability, and control-*ability* of this compact electric brake and clutch.

WARNER ELECTRIC BRAKE & CLUTCH CO.

WARNER Beloit, Wisconsin

For more details circle NED-485 C1 on enclosed inquiry slip

How To Get Things Done



BOARDMASTER VISUAL CONTROL

Gives you a Graphic Picture of your operations, spot-lighted in color. You See what is happening at a glance. Facts at eye level—saves you time, prevents errors.

Simple, flexible—easily adapted to your needs. Easy to operate. Type or write on interchangeable cards, snap in grooves. Ideal for production, scheduling, sales, traffic, inventory, etc. Made of metal. Compact, attractive.

Full price $49.50 with cards

FREE 24-Page Illustrated Booklet N-300 Mailed Without Obligation

GRAPHIC SYSTEMS, Yanceyville, North Carolina

For more details circle NED-486 C1 on enclosed inquiry slip

DESIGNED FOR MODERN PIPING!

THE ECON-O-MISER BALL VALVE

COMPARE THE ECON-O-MISER WITH ANY ON-OFF VALVE!

- Remove 4 bolts — the center section lifts out — unions are eliminated!
- ¼" through 6" size range
- Quarter-turn operation
- Smooth round Two Way Flow
- No metal to metal contact — wiping action assures longer life

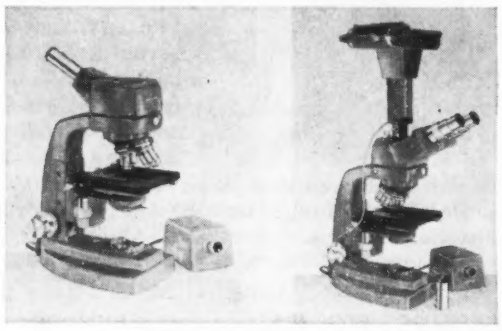
WRITE FOR COMPLETE TECHNICAL INFORMATION!

WORCESTER VALVE CO., INC. / WORCESTER 10, MASS.

For more details circle NED-487 C1 on enclosed inquiry slip

ZOOM LENS MICROSCOPE features continuous magnification

Image blackout and focus shift are eliminated with the DynaZoom microscope which features the Micro-Zoom optical system for continuous magnification with-

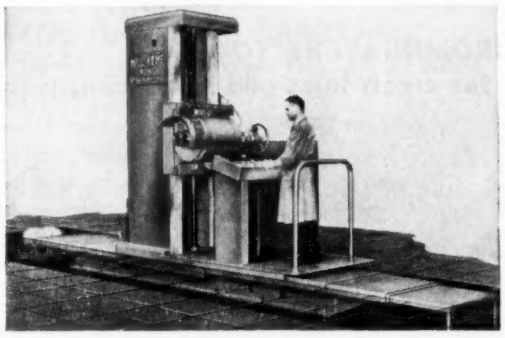


in a range from 17.5 to 1940X, provided by the 10X eyepiece, the 1 to 2X zoom optical system, and several color-coded objectives. Six interchangeable bodies include three monoculars, a binocular, a photo-binocular, and a photo-monocular. All rotate 360 degrees. One stand is common to all models. Eye level remains constant, as the stage is focused instead of the body. Polaroid Land and 35-mm camera attachments are available, as are several types of illuminator accessories. • **Bausch & Lomb Inc.**, 635 St. Paul St., Rochester 2, N. Y.

For more details circle NED-490 C1 on enclosed inquiry slip

STRUCTURAL MILL redesigned for fast stock removal

Faster stock removal and more rapid positioning of the work head have been obtained through redesign of this Kling structural mill. Other improvements



include ball screw leadscrews, nonmetallic precision ground ways, hydraulic counterbalance of the working head, electronic overload protection, hydraulic binders, automatic lubrication, and welded steel construction. The machine has 120-in. horizontal travel and 60-in. vertical travel. The 40-hp direct-drive spindle motor affords 10 in. of in-feed. Either 4½ or 5-in. diameter carbide insert cutters will feed 30 ipm with a 1½-hp motor or 60 ipm with a 3-hp motor. • **Hill Acme Co.**, Kling Div., 1201 W. 65th St., Cleveland 2, Ohio.

For more details circle NED-491 C1 on enclosed inquiry slip

SAVE on PARTS MOLDED of

NYLON • DELRIN* • LUCITE*

STOCK PARTS . . . Make your selection from hundreds of different gears, rollers, bushings, glides, etc. Your "special" part may be in our stock — adaptable to your needs. Investigate and save money.

Write for Catalog

SPECIAL PARTS . . . Our patented, low-cost tooling, especially geared to molding these materials to your specifications, gives you exceptionally low unit cost. Send print or sample for quotation.

We welcome short runs.

nylomatic CORP.

263 WEST TRENTON AVE. • MORRISVILLE, PA.

*Du Pont Registered Trademarks.

For more details circle NED-488 C1 on enclosed inquiry slip

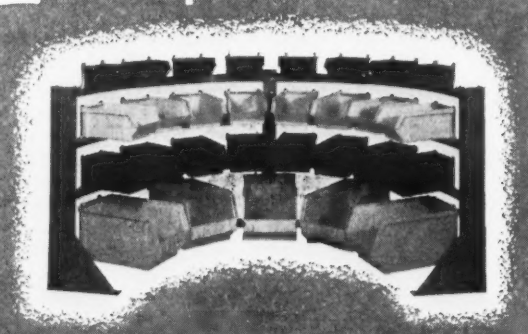
■ Here's a ruggedly built dock bumper that minimizes dock, truck and freight damage by absorbing the impact of trucks backing into docks. Easily installed on wooden or concrete docks, they are the only bumpers made from resilient reversible rubber reinforced fabric that give you double service life. The bumpers will remain resilient even when frozen . . . require no covering and will not flatten or pack.

Write for detailed literature and prices.

FLEX-O BUMPERS, INC.
Subsidiary of Rowe Methods, Inc.
2534-D Detroit Ave. • Cleveland 13, O.

For more details circle NED-492 C1 on enclosed inquiry slip

Lewis | PLASTIBOX ASSEMBLY CONTAINER ACCESSORIES



SEMI-CIRCULAR BENCH STAND

This bench stand provides ultimate accessibility of pan contents to a single worker. The stands are available to mount all three size Plastiboxes, as shown, or can be furnished for one size, or in other combinations of sizes to suit your assembly work. Boxes can be quickly removed for refilling.

DOUBLE and SINGLE FLOOR STANDS

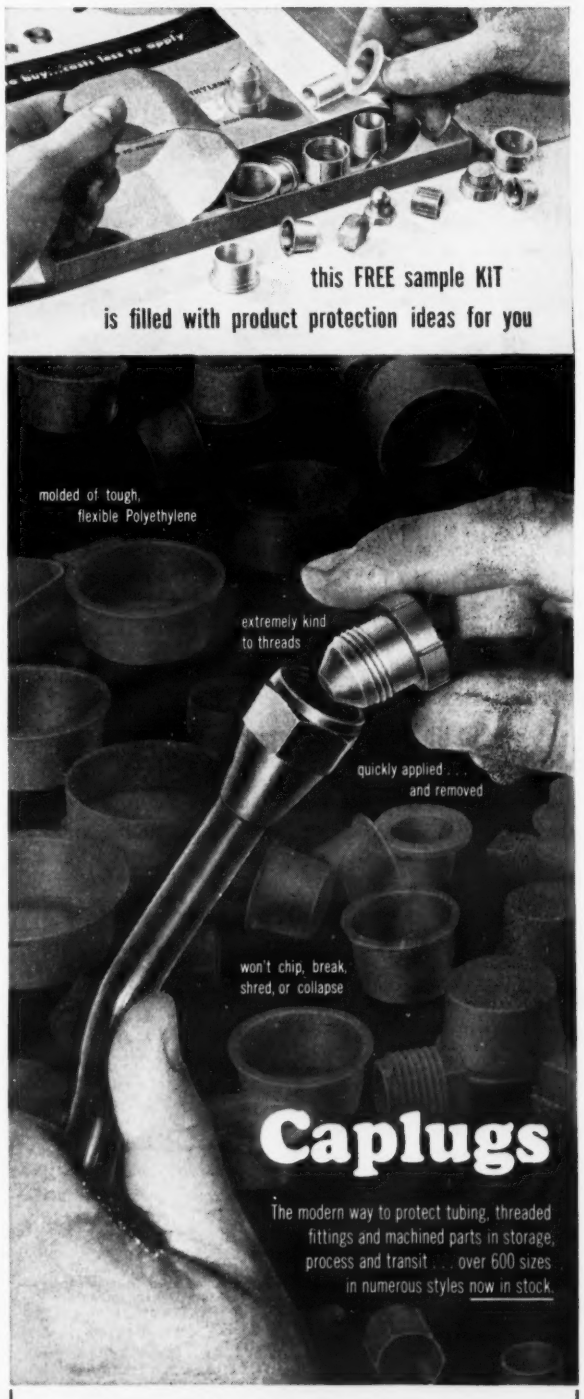
These new storage racks are available as either free-standing double or single wall-supported units, as shown. Either unit will hold up to 224 Plastiboxes and either will mount all one size or various combinations of Plastibox sizes. Boxes can be quickly removed for refilling.

PLASTIBOX—PATENT APPLIED FOR

G.B. Lewis COMPANY
403 Montgomery Street • Watertown, Wisconsin

Complete details, brochure, prices and information on other accessories are available by writing . . . DO IT TODAY!

For more details circle NED-489 C1 on enclosed inquiry slip



CAPLUGS DIVISION, PROTECTIVE CLOSURES CO., INC.
2209 Elmwood Ave., Buffalo 23, N. Y.

MAIL a free assortment of Caplugs, literature and prices to us, without obligation.

Name_____
Title_____
Firm_____
Address_____
City_____ Zone____ State____

For more details circle NED-493 C1 on enclosed inquiry slip

NEW! Utility model airless spray unit

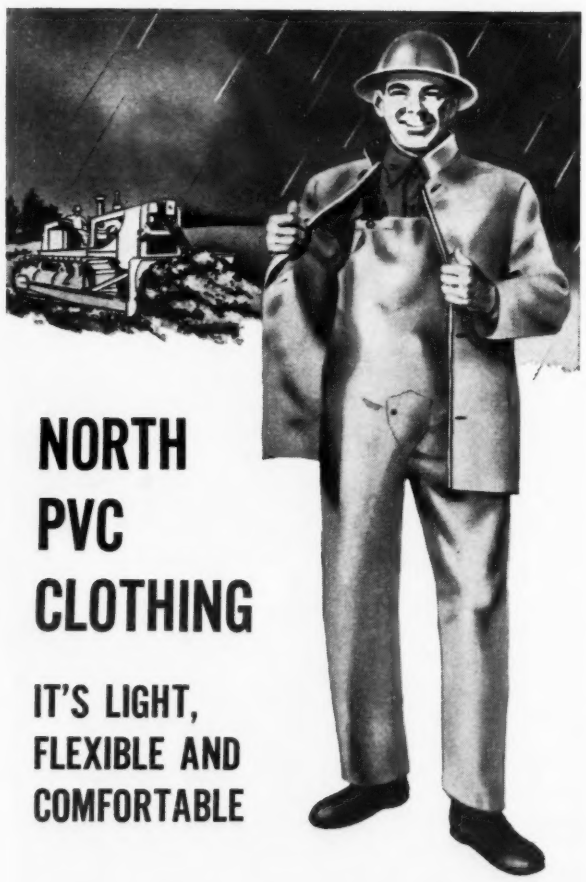
Lincoln's "No-Air" Dyna-Spray System cuts cost in applying paints and other industrial finishes. No atomizing air or material heating is needed. Paint is supplied direct from 5-gallon container by Lincoln's Power-Master pump. The Dyna-Spray gun lays an even coating, reduces overspray and bounceback, and frequently eliminates need for a second coat.

Write for Dyna-Spray Bulletin 404R

Model MD-81 costs less than $500
(Also available in portable model with 5-gal. reservoir, and heavy duty system for 55-gal. factory drum.)

LINCOLN ENGINEERING COMPANY
4010 GOODFELLOW BLVD ST. LOUIS 20, MO
DIVISION OF THE McNEIL MACHINE & ENGINEERING CO
8105

For more details circle NED-495 C1 on enclosed inquiry slip



NORTH PVC CLOTHING

IT'S LIGHT, FLEXIBLE AND COMFORTABLE

When rain falls and wind howls, outdoor workers of all kinds don North PVC Wet-Weather Clothing by Jomac to keep dry and comfortable. And they move with complete freedom because of set-in sleeve design and generous cut.

Seams are shielded and electronically welded to assure leak-proof garments. PVC buttons are welded to give troublefree service.

Insist on Jomac gloves, hand guards, pads, mitts and sleeves for outstanding hand-to-shoulder protection. The loop-pile fabric is cut, abrasion, heat and wear-resistant—and washable.

Insist on North PVC gloves for better fit, greater dexterity, more comfort, longer wear, and maximum safety in handling most chemicals, oils, greases, etc.

WRITE TODAY FOR FOLDER DESCRIBING THESE PROTECTIVE JOMAC PRODUCTS

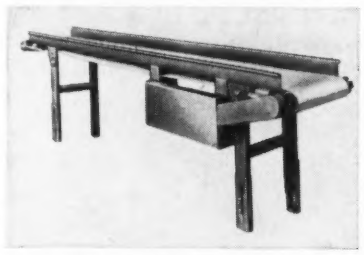
JOMAC

Jomac Inc., Dept. G
Philadelphia 38, Pa.

In Canada: James North Canada Company Ltd., Simcoe, Ont.
"JOMAC Sells Quality . . . and Quality Sells JOMAC!"

For more details circle NED-496 C1 on enclosed inquiry slip

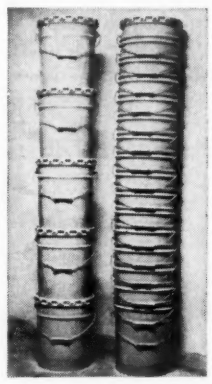
BELT CONVEYOR
light-duty unit in 6-18 in. widths



Side guards are incorporated in the simple one-piece frame of the Unitrough belt conveyor. Unit will handle light articles for either assembly or transportation. Standard 10-ft long sections have belt widths of 6, 8, 10, 12, 14, 16, and 18 in. Beds can be steel or stainless steel. • **Conveyor Specialty Co.**, 33 Newport Ave., North Quincy, Mass.

For more details circle NED-497 C1 on enclosed inquiry slip

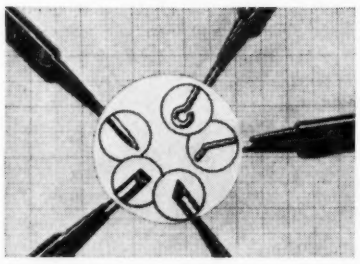
STEEL NESTING PAIL
made in three steel gages



These 5-gal taper-sided nesting pails can be shipped and stored in one-third the space of straight-sided pails. A built-in depressed panel on the cover provides locking when filled pails are stacked, and permits tipping a stack for rolling. Made in 28, 26, and 24-gage steel, the leakproof containers are offered with 16-lug or ring seal covers. The same closing tool can be used for both straight and taper-sided pails. Side seams are electrically welded. Containers are nested without sticking together. • **Bennett Industries, Inc.**, 115 Washington St., Peotone, Ill.

For more details circle NED-498 C1 on enclosed inquiry slip

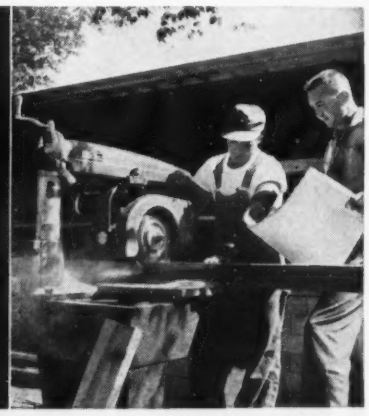
MICROMINIATURE TOOLS
for electronics and instrument work



Sixty-seven different Microtools, all of which are interchangeable in handles, comprise this line of microminiature hand tools for electronics and instrument work. Each is designed to do a specific job. The entire tip area behind the working element is plated with 24-carat gold and shot-burnished for corrosion resistance. Active elements of tools range in size from 0.001 to 0.01 in. Line includes needle point, root knife, spade, chisel, graver, manipulators, hooks, loop, burnisher, scale, brush, spatula, and probe. Tools and kits are packaged in hinged-lid plastic boxes with tip protection. • **Circon Component Corp.**, Santa Barbara Municipal Airport, Goleta, Calif.

For more details circle NED-499 C1 on enclosed inquiry slip

NEW DEWALT IDEAS BUILD NEW PROFITS!



Does new jobs...no extra cost!

DEWALT reduces your investment 60% or more. It does the work... saves the cost and space...of *many* power tools. Use coupon for free copy of new DeWalt IDEA BOOK.

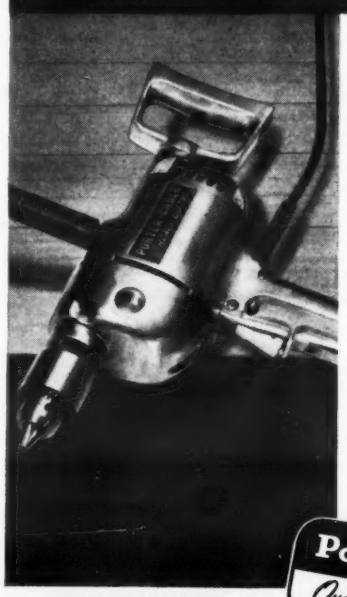
DEWALT, Inc., Dept. NE361, Lancaster, Pa.
Please send free DeWalt IDEA BOOK.

Name_____
Address_____
City_____ State_____

Custom-built by DEWALT, Inc., A *Black & Decker* SUBSIDIARY

For more details circle NED-500 C1 on enclosed inquiry slip

NEW PORTER-CABLE VERSATILE REVERSIBLE ½-IN. DRILL!



Positive drive with full 6-amp. power in either direction. Interlock reversing switch is conveniently located below trigger. Interlock pin prevents reversing while motor is running. Ruggedly built to Porter-Cable quality standards. Furnished with 10-ft. 3-conductor cable, strain reliever, spade handle, auxiliary handle. See Model 516R at your distributor or write for folder.

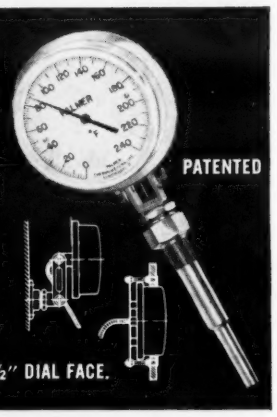
PORTER-CABLE MACHINE CO.
1123 Marcellus St., Syracuse, N. Y.

Porter-Cable Quality Power Products

For more details circle NED-501 C1 on enclosed inquiry slip

PALMER

Mercury Actuated Dial Thermometers now in three types to suit any requirements



FULL 4½" DIAL FACE. Stem can be placed at any angle and case can be rotated to any readable position.

1 RIGID STEM DIAL THERMOMETER tapered bulb, interchangeable with standard industrial thermometer.

2 WALL MOUNTED DIAL THERMOMETER with flexible connecting armor.

3 FLUSH MOUNTED DIAL THERMOMETER for panel mounting.

PATENTED

ALL THREE TYPES HAVE A FULL 4½" DIAL FACE.

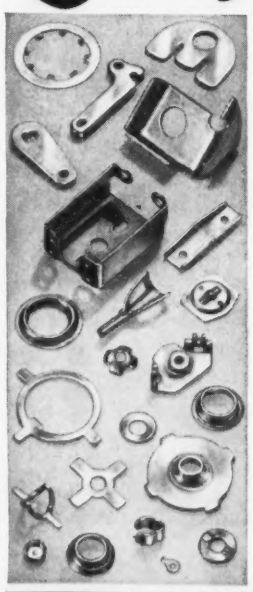
■ **for accuracy:** Mercury actuated . . . Compensated by Invar. Guaranteed Accurate 1 scale division. ■ **for angularity:** Can be adjusted to most readable position at any angle desired. ■ **for readability:** Bold Black Numbers . . . 11" of scale Reading Dial face can always be placed in easiest readable position. ■ **for interchangeability:** Also specify "PALMER" Separable sockets as they are interchangeable for Dial or Industrial type Thermometers.

PALMER

PALMER THERMOMETERS, INC.
Norwood Ave., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory, Recording & Dial Thermometers

For more details circle NED-502 C1 on enclosed inquiry slip

Quadriga® means Quality metal stampings



Quadriga specializes in the manufacture of custom-made stampings to close tolerances. Using the most advanced machinery and methods, Quadriga can provide the *exact* stamping required to fill your application—any metal, medium to high quantity runs. Depth of draw to 3½ inches—press. capacities to 150 tons.

Quadriga also manufactures custom-made flat, friction, tension and finishing washers as well as wire terminals in thousands of special sizes and shapes.

Send b/p or specs for estimate. Request catalog on your company letterhead.

® Reg. U. S. Pat. Off.

THE Quadriga MFG. CO.
221 WEST GRAND AVE. • CHICAGO 10, ILL.

For more details circle NED-503 C1 on enclosed inquiry slip

Jenkins' METLKORS automatically clean all kinds of conveyors . . . rubber covered, fabric, band, mesh, bar, plate, string. Adapt easily to any system . . . save time, money. Nylon bristles and metal cores resist corrosion.

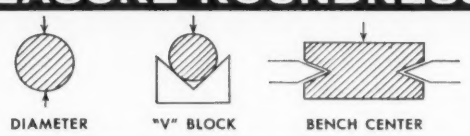
Specify Jenkins' METLKOR—the original—the best *Metal Core* brush

METLKOR® CYLINDER BRUSHES and LIFEWOOD® WOOD BACKED BRUSHES

M. W. JENKINS' SONS, INC.
Serving Industry for 80 Years
P.O. Box 68, Dept. 15, Cedar Grove, Essex County, N. J. • CEnter 9-5150

For more details circle NED-504 C1 on enclosed inquiry slip

HOW DO YOU MEASURE ROUNDNESS



Out of roundness consists of an odd or even number of lobes or bumps with regular or random spacing about the part circumference. Not all of these types can be measured or even detected by the more common measurement methods.

Measurements by diametrical or "V" Block methods are a calculated risk — they seldom tell the full or correct roundness story. Both methods are completely insensitive to certain types of part lobing.

Center type measurements are sensitive to all types of out of roundness—but the measurements are questionable in the high or ultra-precision fields. Very few plants have the means or program to control center and center hole error factors to the necessary degree.

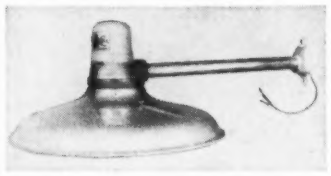
Radial measurements using an ultra-precision spindle and in some cases using a master round, are the only method which give a full and accurate measurement of out of round.

Write for "Roundness Measurements" and determine the reliability of your present method.

Cleveland INSTRUMENT COMPANY
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 East Schaaf Road • Cleveland 31, Ohio

For more details circle NED-505 C1 on enclosed inquiry slip

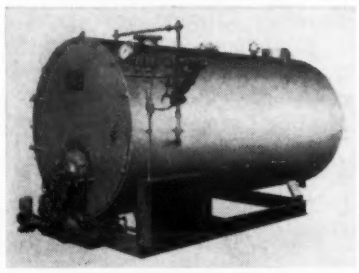
PHOTOELECTRIC YARD LIGHT
features integral on-off control



Being an integral part of this electric yard light, a CdS photoelectric control turns it on or off automatically in accordance with the surrounding light level. It has an aluminum socket casting, 14-in. diameter shallow or deep reflector, and an epoxy finish. Three-wire construction provides for control of secondary lights from the photoelectric switch head. Price is $22.50. • **Com-Pak-Ett Mfg. Corp.**, Allegan, Mich.

For more details circle NED-507 C1 on enclosed inquiry slip

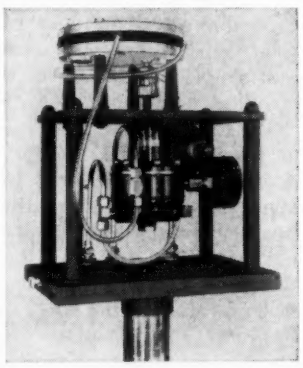
PACKAGED BOILER
capacities range from 30 to 300 hp



Available for gas, fuel oil, or combination gas-oil firing, three-pass packaged boilers are fully automatic. These 30 to 300-hp units are factory assembled and test fired and are readied for use merely by making utility connections. Included in package are Viscomatic controlled air-atomized firing, viscosity valve control system, dual pump and reservoir, and enclosed control cabinet with prewired operating and programming type flame safeguards and circuit breakers. • **Ray Oil Burner Co.**, 1301 San Jose Ave., San Francisco 12, Calif.

For more details circle NED-508 C1 on enclosed inquiry slip

CONTINUOUS GAS SAMPLER
determines properties of sample



Model G continuous gas sampler for determining chemical and physical properties of a gas will accumulate a sample of gas at a constant rate to a final pressure at or near 300 psi. Sample is gathered in a portable container for easy access to laboratory. Unit is available for sample ranges from 30 to 300 psi, although lower pressure instruments can be furnished. Operation is based on maintaining a constant rate of increase in gas pressure within a closed container, resulting in a constant rate of gas flow into the closed container. Instrument needs no external power and can thus be used in hazardous areas. • **Arcco Instrument Co.**, 7144 E. Condor St., Los Angeles 22, Calif.

For more details circle NED-509 C1 on enclosed inquiry slip

A Stockroom You Can Build Yourself!

SECTIONAL STACKBINS® give you the greatest flexibility and ease of installation ever devised for parts, tools, materials storage containers. You can set them up in minutes without tools! By combining bin sizes and number and size of openings, you get a storage system tailored to fit your particular needs. SECTIONAL STACKBINS give you maximum storage utility in minimum space. Available in 6 interstacking sizes.

For full information and prices, WRITE TODAY!

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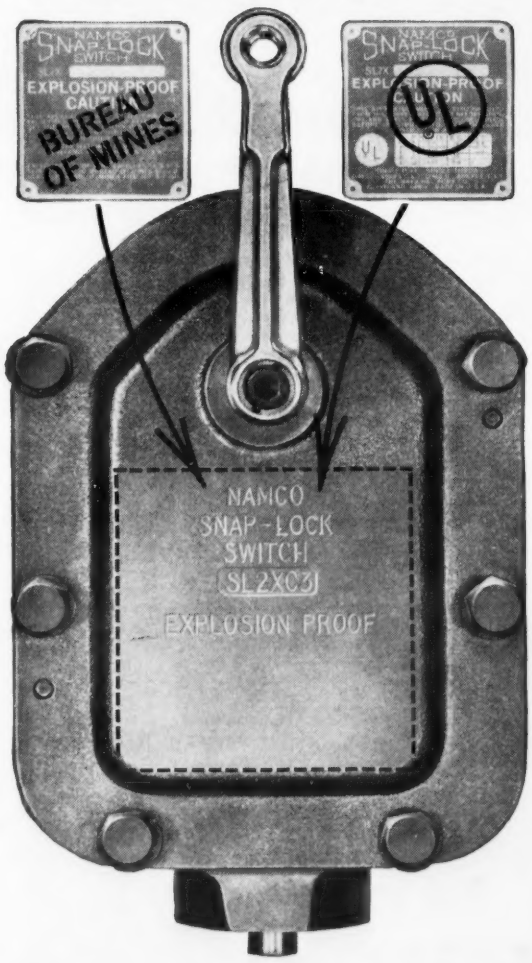
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM "Stacked and Still Accessible"

For more details circle NED-510 C1 on enclosed inquiry slip

National Acme's SL2X limit switch doubly certified explosion proof



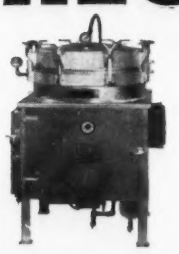
Specify National Acme's SL2X . . . and eliminate limit switching problems under explosive conditions. Tested and certified "explosion-proof" by both Underwriters' Laboratories and the Bureau of Mines, the SL2X is specifically designed for use in the mining, chemical, process industries . . . anywhere explosions cannot be tolerated. Latest of National Acme's dependable SL2 "Machine Life" Limit Switches, the SL2X also offers . . . a variety of cam arrangements for extreme operating flexibility . . . ample overtravel (67°) and by-pass (90°) . . . light operating pressure (12½ lbs. at 1½" radius). Get all the details on this new standard of limit switching dependability and safety. Call, write or wire.

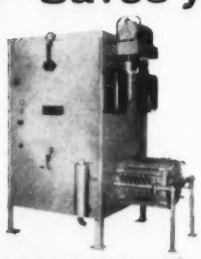
National Acme
THE NATIONAL ACME COMPANY
180 E. 131st STREET
CLEVELAND 8, OHIO

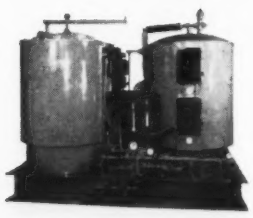
Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

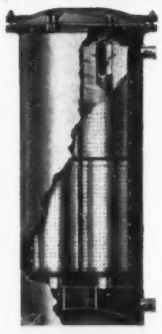
For more details circle NED-511 C1 on enclosed inquiry slip

HILCO Oil Purification Equipment Saves your Oil, Machinery and Money


OIL RECLAIMER


PURIFIER-RE-REFINER


HIGH CAPACITY RECLAIMER


FILTER

One of these HILCO units will take care of your oil filtering or purification needs. Write to HILLIARD stating your problem and we will make a recommendation. A field representative will call if you prefer.

The complete line of equipment for reclaiming, filtering, purifying and re-refining oil . . . HILCO

Recover large quantities of oil at low cost, keep your equipment in top condition with clean oil, reduce maintenance costs and increase production. The Hilliard catalog will show you oil maintenance equipment for your specific application along with complete descriptive and engineering data. Write today!

There is a HILCO to take care of YOUR OIL PURIFICATION PROBLEM

Write for this FREE Catalog . . .

Recommendations at no obligation

The HILLIARD Corporation 31 W. Fourth St. Elmira, N.Y.
IN CANADA: UPTON-BRADEEN • JAMES, LTD. • 890 YONGE ST., TORONTO • 8760 VERVILLE ST., MONTREAL

For more details circle NED-506 C1 on enclosed inquiry slip

One Safety Hat to meet all needs

It's the AO Dura-Guard, an *all-new* safety hat or cap designed for universal use. Meets or exceeds all standard specifications. Made entirely of plastic without metal parts, *every* Dura-Guard may be worn where dielectric protection is required. Dielectric strength in accordance with E.E.I. specifications (April 1954) is available in individually tested hats and caps. **Shell** . . . injection molded for uniform thickness in critical areas, smooth polished finish. **Suspension** . . . dual fixed and adjustable "X"-shaped suspension assures maximum protection; all-plastic—light, comfortable, easy to clean, long lasting. **Headband** . . . polyethylene; one headband only, adjusts between sizes 6¼ and 8 on both sides to *stay centered* in shell. **Sweatband** . . . easy-to-remove, two-piece construction simplifies cleaning, minimizes replacement cost. Write for details.

Your Surest Protection . . . AO SURE-GUARD Products

American Optical COMPANY
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts

Safety Service Centers in Principal Cities

For more details circle **NED-512 C1** on enclosed inquiry slip

on the PINES INVERTIBLE ROTARY BENDER

Fast Changeover — Accurate Bends

Eliminate workpiece interference on jobs with multiple planes, odd shapes in tubing, bar, pipe, angles, rolled or extruded parts. Pivoting top assembly and interchangeable tooling on the Model 1400 provides fast, 2-minute conversion from clockwise to counterclockwise bending.

Producing quality bends at speeds up to 400 an hour in materials to 1¼", with angle accuracy to ±½°, this highly versatile, low-priced, machine can cut your bending costs.

WRITE TODAY FOR CATALOG 356

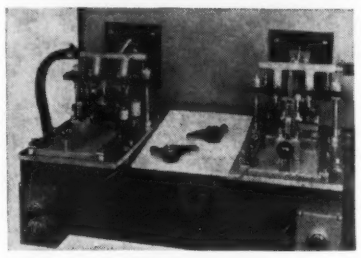
PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
640 WALNUT • AURORA, ILLINOIS

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

For more details circle **NED-513 C1** on enclosed inquiry slip

For more details circle **NED-514 C1** on enclosed inquiry slip

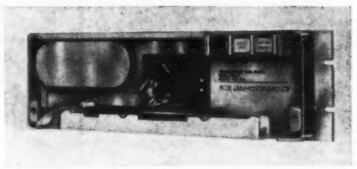
INDUCTION HARDENER
two-station, manually operated type



Although designed for the induction hardening of rocker arms, this manually operated machine can, with changes in fixturing, serve for other hardening and brazing applications. Operator places parts on a spindle, clamps them in place, then slides the tray forward into the work coil area. After pressing a button to start the cycle, he loads the alternate position and presses the second "start" button. A memory circuit in the control unit starts the second cycle as soon as the first cycle has been completed. In the case of the rocker arms, the fixture can be adjusted to handle six different parts. Heating and quench time is about 10 sec. Equipment uses a standard Ther-Monic Model 750 generator with 7½ kw output, cooled by a self-contained water-to-air heat exchanger. • **Induction Heating Corp.**, 181 Wythe Ave., Brooklyn 11, N. Y.

For more details circle **NED-515 C1** on enclosed inquiry slip

PHOTOELECTRIC TAPE READER
reads three standard width tapes at any one of four reading speeds



Reliable tape reading for input to digital computers, communication systems, tape converters, and machine tool controls is provided by the PTR-7 photoelectric tape reader. It incorporates an application of chopped reflected light and ac-coupled amplifiers to attain high stability of operation and a favorable signal-to-noise ratio. Unit features silicon solar cells, solid state amplifiers and power supply, and simple mechanism in reading 11/16, ⅞, and 1-in. standard tape widths with up to eight channels.

Either a strip or continuous loop tape can be read at 10, 30, 75, and 100 ips. Device has a 1000 character-per-second reading rate. It will automatically start and stop on a negative 10-v signal on a separate line for each signal, or it will start or stop the machine with a positive 10-v signal when fed from a third line. Operation is on 115 v, 60 cycles ac. • **Omnitronics, Inc.**, 511 N. Broad St., Philadelphia 23, Pa.

For more details circle **NED-516 C1** on enclosed inquiry slip

LIMIT SWITCH
approved for hazardous locations

Explosionproof Model M-HL Loxswitch limit switch carries NEMA and UL-approval for use in hazardous locations. Housing is a heavy nonsparking aluminum casting with metal-to-metal seal. Switch mechanism is attached to cover and plugs into terminal block in the base. Features include a short trip differential of 6 degrees ±1 degree, repetitive accuracy of ±0.1 degree, safety overtravel in both directions of 45 degrees, and trip operating force of 60 in.-oz. Switch is furnished for clockwise operation, counterclockwise spring return, and is reversible in the field. Electrical circuits are normally-open, normally-closed, and isolated double break, rated 600 v ac or dc. Without lever, unit lists for $24. • **R. B. Denison Mfg. Co.**, 386 Broadway, Bedford, Ohio.

For more details circle **NED-517 C1** on enclosed inquiry slip

Low-Voltage Distribution Equipment

General Electric Co., Distribution Unit—"Buy Log" is the title of a 92-page guide to the specification and purchase of low-voltage distribution equipment. Condensed easy-to-use data are given on heavy duty safety switches, current-limiting fuses, hinged wireway, circuit breakers, switchboards, motor control centers, power distribution centers, and all types of panelboards and busway.

For more details circle **NED-518 C1** on enclosed inquiry slip

WORK-O-MATIC* BOXES DROP COSTS, TOO!

• W
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red
ma
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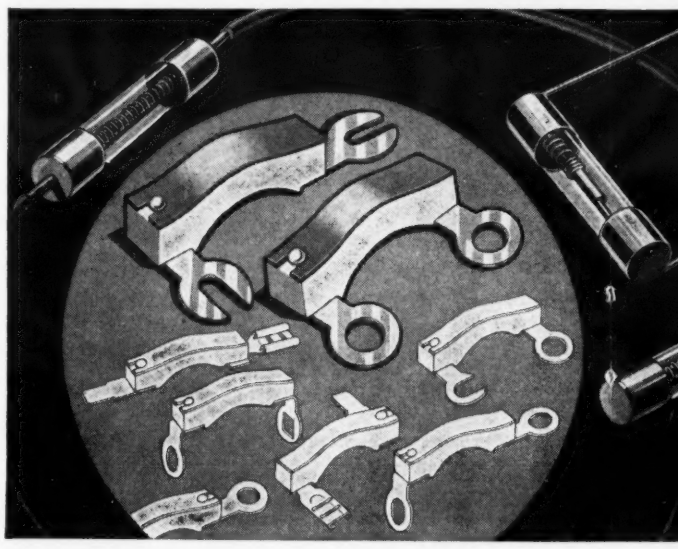
*Registered Trade M
U
Mat

For more details circle **NED-519 C1** on



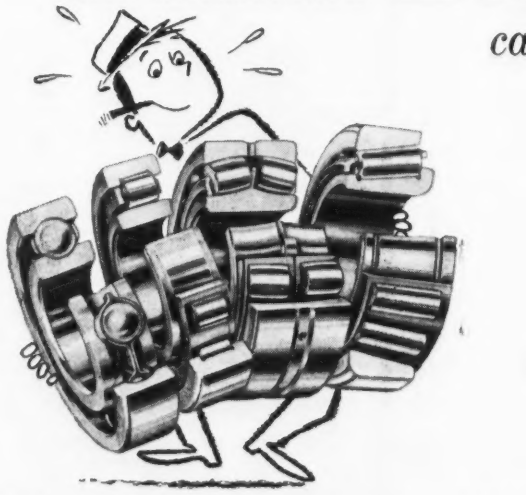
BUSS Heat-Limite

. . available in many types and in many styles of terminals!

A SOUND, LOW COST SOLUTION TO M PROBLEMS OF OVERHEATING . . .

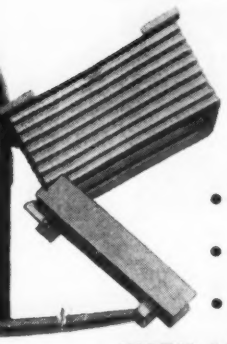
For more details circle **NED-520 C1** on

The Authorized SK
ca



Spherical, Cylindrical, Ball, and Timken Tapered Roller Bearings

For more details circle **NED-521 C1** on



- CONTROLLED DUMPING
- UNIT LOAD HANDLING
- SAFE, COMPACT TIERING
- WORK LEVEL POSITIONING OF PARTS, WHEN COMBINED WITH UNION METAL POSITIONING STAND.

You'll find Work-O-Matic drop-bottom boxes reduce costs and increase efficiency by solving many troublesome handling problems.

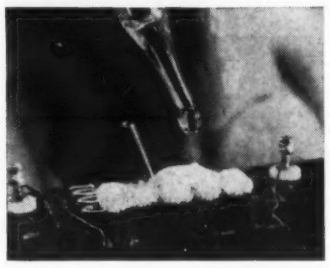
THE UNION METAL MANUFACTURING CO.
Canton 5, Ohio • Brampton, Ontario

Registered Trade Mark

UNION METAL
Material Handling Equipment

NED-519 C1 on enclosed inquiry slip ▲

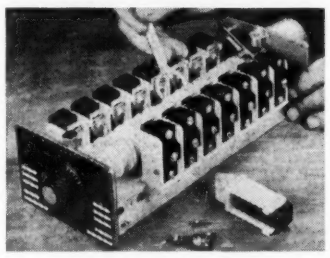
THERMOELECTRIC DEVICE
same unit produces heat and cold



Smaller than a paper clip, this thermoelectric device or Peltier cooler will produce either heat or cold at the flip of a switch. It can freeze or boil a drop of water on power from two flashlight batteries. In clusters it can be used to maintain a space ship at room temperature or operate an instant-defrosting refrigerator with no moving parts. Device produces heat at the junction of two semiconductor materials when current is passed through it in one direction. Reversal of current flow provides cooling in the same unit. Heating efficiency is reported to be up to eight times as high as conventional resistance heaters. • **Hughes Aircraft Co.**, Florence Avenue & Teale Street, Culver City, Calif.

▲ For more details circle **NED-522 C1** on enclosed inquiry slip ▲

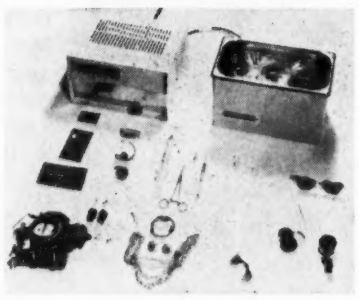
PROGRAM TIMER
controls up to 20 load circuits



Timed - sequence control of up to 20 independent load circuits provided by Type 540 adjustable program timer allows choice of hundreds of cycle speeds from 1 sec to 11 days. On and off points are independently adjustable for each circuit from 2 to 98 per cent of full cycle time. Relay for single-cycle-and-stop operation, or with two-speed camshaft can be supplied. Timing accuracy is within $\pm 1/2$ per cent of cycle at operating points of each circuit. Snap-action single-pole double-throw switches rated 10 amp at 115 v noninductive are replaceable in the field. Motors are available for all standard voltages. • **Cramer Controls Corp.**, Electromechanical Div., Box 281, Centerbrook, Conn.

▲ For more details circle **NED-523 C1** on enclosed inquiry slip ▲

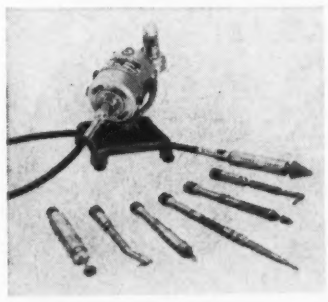
ULTRASONIC CLEANER
120-w unit has 1½-gal capacity tank



Broad band frequency modulated circuit of the diSONtegrator System Eighty ultrasonic cleaner eliminates need for automatic tuning. It has a 1½-gal capacity tank and a generator rated 120 w average and 480 w peak output. Unit operates from 117-v 50/60 cycle ac and uses water and detergent or solvent cleaning solutions. Transducer propagates 90,000 cps ultrasonic energy into the cleaning solution to disintegrate more than 50 distinct classes of soils and contaminants on contact lenses, jewelry, and complex electronic components. Price is $219.95. • **Ultrasonic Industries, Inc.**, Engineers Hill, Plainview, L. I., N. Y.

▲ For more details circle **NED-524 C1** on enclosed inquiry slip ▲

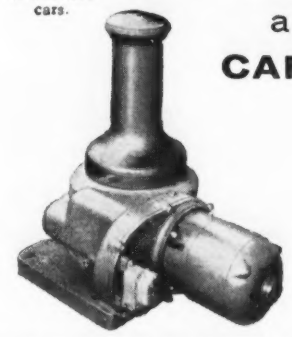
MINIATURE POWER TOOL
flexible shaft unit does many jobs



Grinding, drilling, polishing, deburring, marking, and many other machining jobs can be done on materials ranging from metal to glass with the Series GG bench-type miniature power tool. The flexible shaft machine has a 1/10-hp universal motor with two speed ranges. Speeds to 12,000 rpm are obtainable on direct drive. Unit is UL-approved, weighs less than 9 lb, and plugs into 110-v ac or dc outlet. It is offered with a selection of pencil-slim and miniature angle-type handpieces which accept all kinds of rotary tools with shanks from 1/32 to ¼ in. Cost ranges from $74 to $87, depending upon handpiece selected. • **Foredom Electric Co.**, Bethel, Conn.

▲ For more details circle **NED-525 C1** on enclosed inquiry slip ▲

Type 240-A handles up to 3 loaded cars.



JEFFREY
all-purpose
CAR PULLERS

Pull in any direction — Large vertical capstan makes it easy. Winch allows as many turns of rope as needed for hard pulls and to prevent slippage.

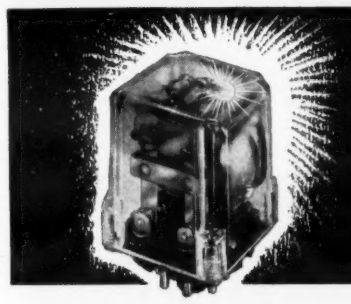
Save time—Eliminate waiting for locomotive to spot cars for loading or unloading . . . avoid hard, slow job of pinching cars into position.

Eliminate heavy equipment—Use Jeffrey Car Pullers for spotting cars or ships, docking barges, handling moving jobs wherever a pulling force is needed. Described in Bulletin 861. The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

JEFFREY

THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

▲ For more details circle **NED-526 C1** on enclosed inquiry slip ▲



LIGHT IN RELAY MONITORS CIRCUIT
KRP-N SERIES

P&B Plug-In Relay Has Built-In Lamp
. . . Long Life, Switches 10 Amperes

Eliminates need for costly pilot lights. Lamp lights when relay coil is energized. Operates on 1.2 watts DC or 2 volt-amps AC . . . relay's compact design, reliability and switching capabilities make it ideal for automation and communication applications.

ENGINEERING DATA

CONTACTS
material: 3/16" dia. silver cadmium
rating: 10 amps at 115 volts AC 60 cycle, non-inductive
arrangements: up to 3PDT
Lamp: AC 6 to 230 volts DC 6 to 110 volts

COIL
voltage: DC 6 to 110 AC 6 to 230
power: 1.2 watts DC 2 volt-amps AC
resistance: 16,500 ohms max.

Enclosure: clear cellulose acetate dust cover with 8 or 11-pin plug-in header.
Dimensions: 2" high x 1 13/32" square

KRP-N (DPDT) RELAYS ARE STOCKED BY LEADING ELECTRONIC PARTS DISTRIBUTORS

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY, PRINCETON, IND.

▲ For more details circle **NED-527 C1** on enclosed inquiry slip ▲

XCELITE, INC. ORCHARD PARK, N.Y.
XCELITE
Canada: Charles W. Pointon, Ltd., Toronto, Ont.

▲ For more details circle **NED-528 C1** on enclosed inquiry slip ▲

niters
s and
inals!
ON TO MANY
. . .

BUSS *Safety-Valve*
HEAT LIMITERS

A Heat-Limiter with the thermal, electrical and mechanical characteristics best suited to your application probably is already available from the extensive BUSS line. If not, the BUSS engineers will gladly work with you in developing one right for your needs.

BUSS Heat-Limiters guard against overheating creating a hazard or resulting in loss of material by cutting off the current at a predetermined temperature.

Applications include: Hair Driers, Refrigerator Defrosters, Deep Fryers, Incubators, Ovens, Industrial Cookers, Heaters, Combination Room Coolers . . . plus many other devices or apparatus where failure of temperature control might cause trouble.

If overheating is a problem, it will pay you to investigate the advantages of BUSS Heat-Limiters. Write **Bussmann Mfg. Division,** McGraw-Edison Co., University at Jefferson, St. Louis 7, Mo.
Another outstanding development by the makers of BUSS FUSES

NED-520 C1 on enclosed inquiry slip ▲

SKF *Distributor carries a full line of bearings*

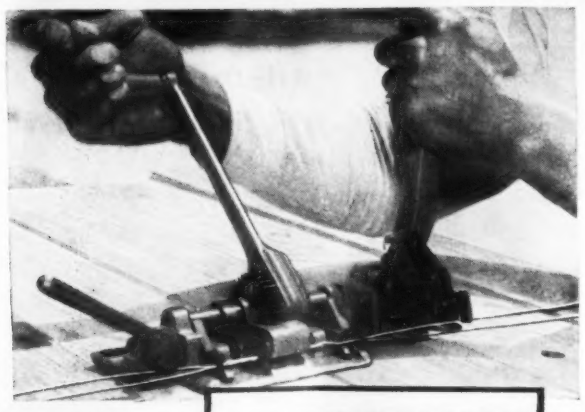
He can give you immediate delivery of almost any bearing—because he carries all types in countless sizes in his local stocks.

And if he should be "out," there's a nearby SKF regional warehouse that is completely stocked to back him up. So, why not consider his full line as your inventory and call him first? 5907

Roller Bearings

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.
*REG. U. S. PAT. OFF.

e NED-521 C1 on enclosed inquiry slip ▲



NOW! Save 50-80% on strapping

Twice as much for the money . . . Oval steel strapping gives you high tensile strength . . . a greater lineal feet per pound yield. Countless users have cut their strapping costs 50 to 80%. *Easier to use.* Just *one* tool to tension, twist and cut the strapping. You save time, manpower and equipment investment. *Full details.* Circle the reader service card, or write:

A.J. GERRARD & COMPANY / STRAPPING MATERIALS

410 E. Touhy Avenue • Des Plaines, Illinois

For more details circle NED-529 C1 on enclosed inquiry slip

Mid-western glass plant conveys air filters through assembly, shipping and boxing operations on Wendway.

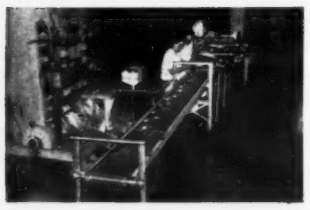
WENDWAY CONVEYS *Anything*

...ANYWHERE!

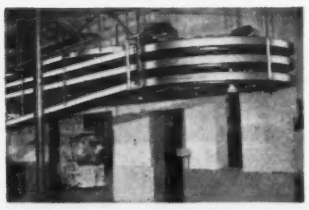
Wendway easily adapts and installs with existing equipment to speed processing and eliminate handling.

● If you move anything—product, carton, package, bag or assembly—from one machine to another...one room to another, you profit by installing a Wendway Light Product Conveying System. And no mattar how you move those products now, Wendway can do it better. Faster, safer and more economically, too!

Because...Wendway is the most versatile, powered conveyor ever offered to industry. Readily available in a variety of standardized linked rod, belt widths on straight sections, curves, switches, multiple tiers—any combination you require to convey anything, anywhere.



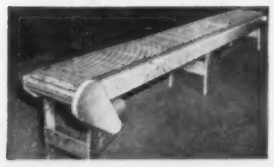
Short, single tier units save storage space, equipment and man hours. Installations may be portable if desired.



Ceiling-mounted Wendway saves valuable floor space. Excellent for cooling or drying operations.

Wendway Slat-Type Conveyors—for Heavier, More Difficult Applications

Developed to meet the need for a highly dependable, extremely versatile, adaptable system with greatly increased carrying capacity (70 lbs. per lineal foot). Available in 24", 30" and 36" standard widths in powered or straight sections. Larger widths, special order.



Above: Close up of powered curve shows how individual slats smoothly negotiate curve without variation in spacing Products ride smooth, safe, quiet.

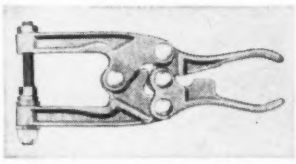
Above: This photo illustrates the rugged, clean lined simplicity of the Wendway slat-type powered conveyor so popular for heavy duty applications.

WRITE TODAY . . . for additional information, specifications on a Wendway System to match your requirements. Recommendations without obligation.

UNION STEEL PRODUCTS CO.
Industrial Conveyor Division
ALBION, MICHIGAN

For more details circle NED-530 C1 on enclosed inquiry slip

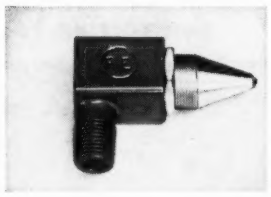
LOAD INDICATING PLIERS
apply predetermined clamp force



Reapplication of the same predetermined holding force to parts of varying thickness is possible with these load indicating pliers. In use, the adjusting spindle is set to the desired clamping force by trial clamping. Once determined, the self-locking nut on the plier anvil is adjusted so that a load indicating washer moves smoothly with the plier clamped on the work. The established clamping force is duplicated by turning the adjusting spindle until the washer again moves smoothly after clamping. Feature is available on four plier models, plus the C-clamp series, for 1200-lb maximum clamping force. ● **Lapeer Mfg. Co.,** 1150 W. Baltimore, Detroit 2, Mich.

For more details circle NED-531 C1 on enclosed inquiry slip

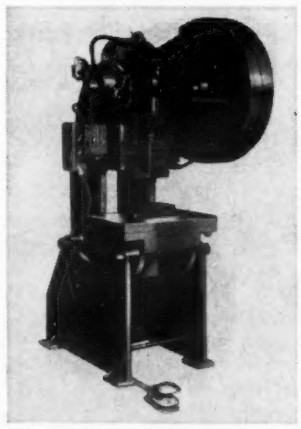
PINPOINT PHOTOCELL
detects, counts, or scans tiny parts



Lens holder and tunnel aperture for use on either the light source or the photocell of the Farmer miniature photoelectric scanner increases the system's ability to detect small objects and small movements. When used on the photocell, the pinpoint lens holder provides a narrow field of vision for detecting small objects up to 10 ft away or 0.001-in. movement of slow moving objects near the photocell. It also minimizes the effect of ambient light. A small, sharply defined round spot of light (1/64-in. diameter at 1/4 in. from the lens) is produced by using the lens holder on the light source. Scanner can then detect 0.010-in. objects or follow lines in a tracing operation. ● **Farmer Electric Products Co.,** 2300 Washington St., Newton Lower Falls, Mass.

For more details circle NED-532 C1 on enclosed inquiry slip

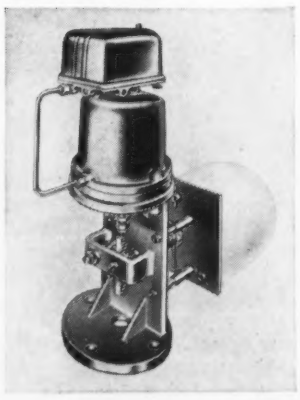
OBI PUNCH PRESS
30-ton unit rated 120 strokes/min



Frame can be inclined 30 degrees on this electrically operated open-back inclinable punch press which has 30 tons capacity and is rated at 120 strokes per minute. It has a 15 per cent overload safety factor. Press, operated by a movable foot trip, has a 3-in. stroke length with 2½-in. ram adjustment. Pin-type non-repeat clutch is converted to repeat by turning a switch. Opening through back is 12 in. wide with an 8½-in. throat depth and 12½-in. throat height. Automatic oilers, air-operated clutches, and hand operated trip buttons are among options offered. ● **Whitney Metal Tool Co.,** 801 Forbes St., Rockford, Ill.

For more details circle NED-533 C1 on enclosed inquiry slip

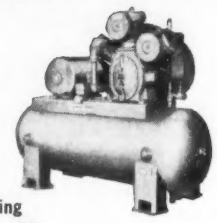
ROTARY ACTUATOR
responds to pneumatic signal



At full piston rod travel of 4 in., the Type 486 rheostat actuator rotates the rheostat 360 degrees. Device combines a pneumatically operated piston actuator with a rack and pinion to convert linear piston rod motion to rotary motor. Responding to a pneumatic signal, it produces 185 lb-in. of torque with 40-psi air supply. Stops are available to arrest travel at 315, 320, 325, and 330-degree rotation. Flexible drive couplings from pinion to rheostat allow for eccentricity or angularity differences. An aluminum housing covers the rack and pinion assembly. ● **Fisher Governor Co.,** Box 307, Marshalltown, Iowa.

For more details circle NED-534 C1 on enclosed inquiry slip

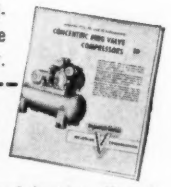
AMPLE AIR is always there... with IR TYPE 30 AIR COMPRESSORS



Ingersoll-Rand "packaged" Type 30 Compressors are top choice among men who look for dependability combined with low-cost maintenance and maximum efficiency.

- Stainless steel valving
- Individual cylinders with micro-honed walls
- Finned copper intercoolers
- Four-ring piston design
- Totally enclosed centrifugal unloader
- Single and two-stage units —½ to 20 hp

Get the facts on features and performance! Write today for latest literature on Ingersoll-Rand Type 30 Air-Cooled Compressors or see your local I-R representative or distributor.

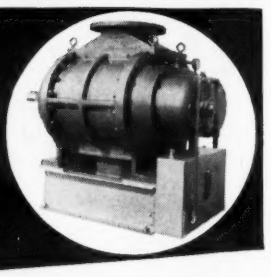


Ingersoll-Rand
11 Broadway, New York 4, N. Y.

94A-3

For more details circle NED-535 C1 on enclosed inquiry slip

SUTORBILT... NEW BLOWERS AND GAS PUMPS, SERIES 3200



Series 3200 Sutorbilt lobe type positive blowers and gas pumps are heavy duty, high performance units which are designed to handle from 800 to 20,000 cfm at pressures from 2 to 10 psi. Available with timing gear diameters from 10" through 22" in horizontal designs. Also, many sizes are offered with vertical case arrangements.

3200 SERIES DESIGN FEATURES:

- distortion-free construction at maximum operating pressure
- increased pressure and horsepower ratings with safety
- oversize heavy duty anti-friction roller bearings
- alloy steel helical timing gears insure accurate phasing
- internally ribbed impellers provide high strength and stability
- machined sub-bases furnished with all units
- force feed pressure system lubricates timing gears and bearings
- mechanical seals prevent leakage or gas contamination in gas and vacuum pumps

Write for descriptive literature, Department E

SUTORBILT IS WELL BUILT S-29

CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF.
SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.

2620

For more details circle NED-536 C1 on enclosed inquiry slip

NEW STEVENS MIXER IS A TOP PERFORMER

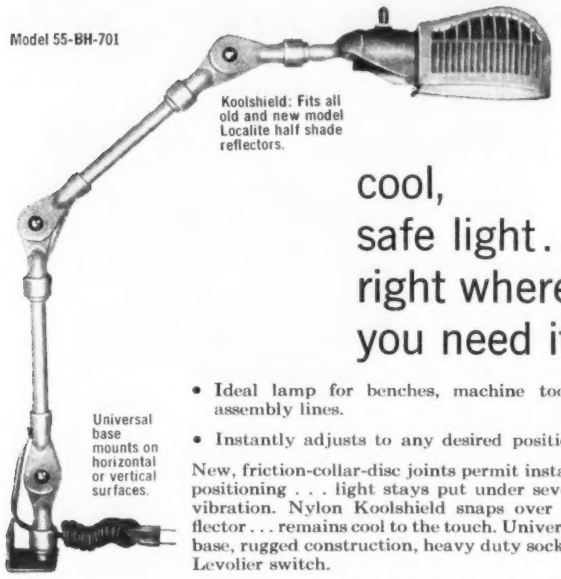
This versatile, new mixer does a better job on all dry and semi-dry solid materials. **FAST**—thoroughly mixes a uniform batch in less than two minutes. **COMPACT**—requires minimum of floor space. **ECONOMICAL**—initial cost and maintenance requirements are low. **CONVENIENT**—easy to load; overhang design permits rapid discharge. **RUGGED**—heavy-duty design gives extra-long, trouble-free performance. **EASY TO CLEAN**—low height and easy accessibility make cleaning a snap.

Write today for complete information. See how Stevens new, low-cost mixer boosts your production efficiency.

FREDERIC B. STEVENS, INC • DETROIT 16, MICH.

For more details circle NED-537 C1 on enclosed inquiry slip

FOSTORIA LOCALITES



cool, safe light... right where you need it!

- Ideal lamp for benches, machine tools, assembly lines.
- Instantly adjusts to any desired position.

New, friction-collar-disc joints permit instant positioning . . . light stays put under severe vibration. Nylon Koolshield snaps over reflector . . . remains cool to the touch. Universal base, rugged construction, heavy duty socket, Levolier switch.

Write for catalog of Localites for every industrial need.

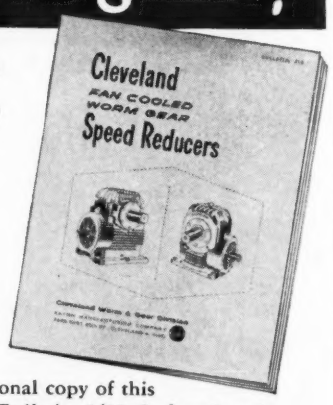
Available through wholesalers everywhere.

FOSTORIA CORPORATION
FOSTORIA, OHIO

For more details circle **NED-538 C1** on enclosed inquiry slip

Designers & Engineers!

Get this new free bulletin on higher horsepower fan-cooled SPEED REDUCERS



Write today for your personal copy of this new detailed engineering Bulletin #410. It describes the finest, newly designed line of higher-horsepower worm gear speed reducers — from 3 to 12-inch centers.

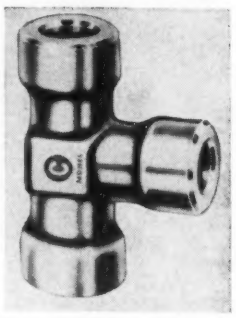
Engineering data includes:

- Design Features
- Rating Tables
- Service Factors
- Sectional Drawings
- Application/Load Classifications
- Over-all Dimension Drawings

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

For more details circle **NED-539 C1** on enclosed inquiry slip

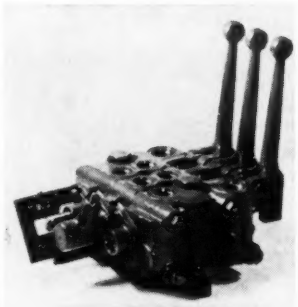
WELD TUBE FITTINGS in 1/8 to 1-in. OD sizes



Leakproof performance under conditions of vibration and shock is provided by these socket weld tube fittings, made of aluminum, brass, Inconel, nickel, stainless steel, and steel. Standard sizes for 1/8 to 1 in. OD tube are augmented by custom shapes, sizes, and materials made to order. Fittings resist corrosion, high pressure, and high temperature. • **Cajon Machine Co.**, 902 E. 140th St., Cleveland 10, Ohio.

For more details circle **NED-541 C1** on enclosed inquiry slip

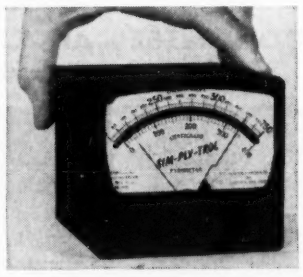
MULTIPLE UNIT VALVES with up to 10 sections



Any number of sections up to 10 are available in CM11 Series multiple unit valves for use on multiple operation mobile machinery such as materials handling and construction equipment. Valves are nominally rated at 15 gpm for operation at up to 2500 psi. Also available is a new integral pilot-operated relief valve with pressure settings from 500 to 2500 psi in 250-psi increments. This unit features extremely low pressure override characteristics. Electric switches can be added. • **Vickers Inc.**, Dept. 1456, Detroit 32, Mich.

For more details circle **NED-542 C1** on enclosed inquiry slip

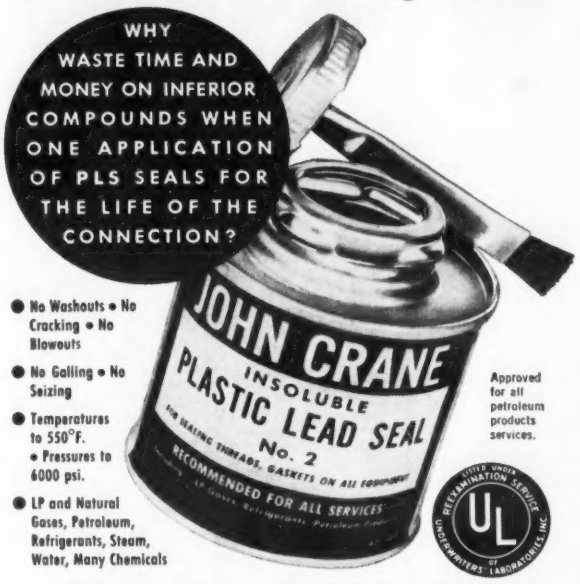
TEMPERATURE CONTROLS small units hold heat within ±1° F



Intended for panel mounting with visual signal indication, Temp-Tendor automatic temperature controls measure only 5½ x 4¼ x 4 in. They maintain heat within ±1° F and utilize a proportioning action that minimizes over-shoot of the set point in producing an almost flat temperature curve. Locking contact meter-relay equipped units are made in eight ranges from 300 and 2500° F. Special ranges may be ordered. Load relay has a 5-amp rating. Signal from the heat source is usually sampled six times per minute. Rate of interruption is adjustable. Safety features cause heat to be turned off if the thermocouple breaks or burns out. Price with single high set point is $185. • **Assembly Products, Inc.**, Chesterland, Ohio.

For more details circle **NED-543 C1** on enclosed inquiry slip

Sure Cure for Leaky Joints



- No Washouts • No Cracking • No Blowouts
- No Galling • No Seizing
- Temperatures to 550°F. • Pressures to 6000 psi.
- LP and Natural Gases, Petroleum, Refrigerants, Steam, Water, Many Chemicals

Approved for all petroleum products services.

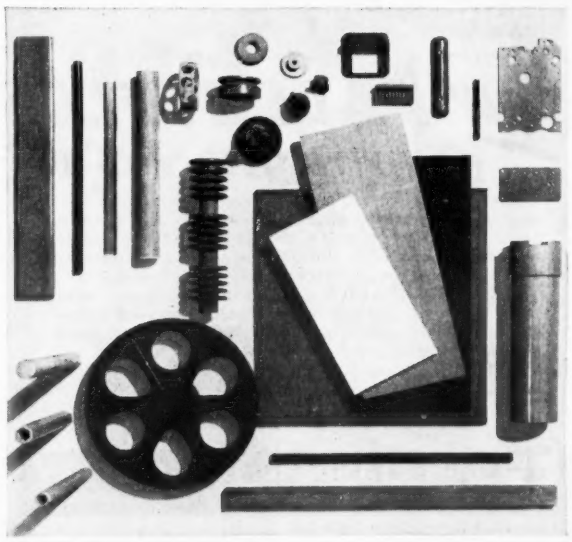
Be Convinced . . . Request Free Sample

Crane Packing Co., 6411 Oakton Street, Morton Grove, Illinois *(Chicago Suburb)*
In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

CRANE PACKING COMPANY

For more details circle **NED-544 C1** on enclosed inquiry slip

EVERYTHING in Laminated Plastics From One Source



An Example of
Synthane *You-shaped* Versatility

From the day this plant started it has been shaped by the needs of customers like you. And so you find under one roof at Synthane your complete answer in laminated plastics—sheets, rods, tubes, molded-laminated, molded-macerated and fabricated parts. Synthane has all the facilities necessary for designing and producing tools, dies, jigs and fixtures for fabrication, a mine of information on the proper methods for machining laminated plastics. Versatility from one source. One high quality. One responsibility.

You-shaped Versatility makes Synthane a Better Buy in Laminates.

SYNTHANE CORPORATION OAKS, PENNA.

Synthane Corporation NE River Rd., Oaks, Pa.
Gentlemen:
Please send me information relating to Synthane as a source for laminated plastic materials and parts.
Name_____
Address_____
City_____ Zone____ State_____

For more details circle **NED-545 C1** on enclosed inquiry slip

MEET THE MILLER A-C "S" SERIES

A BEST BUY by ANY TEST

Compare! Comparison proves that amp for amp and dollar for dollar this is your best deal in a heavy duty a-c welder.

Low first cost teams up with maintenance-free reliability to make the "S" very big on value.

Yet everything needed for top performance is here, including movable coil design, silicon steel cores, class B insulated copper coils, superior cooling, and 80 volts open circuit for instantaneous arc starting. Case is heavy gauge steel under baked enamel lifetime finish with dead front construction.

Complete information on the 300 or 500 ampere Miller "S" a-c welders will be forwarded promptly upon request.

miller ELECTRIC MANUFACTURING COMPANY • APPLETON, WISCONSIN
Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

For more details circle **NED-540 C1** on enclosed inquiry slip

Other FLEX-A-PRENE "Firsts"

- Lint free — no wicking action.
- All parts non-toxic — non-allergic.
- Self-adjusting — snug-fitting.
- Simply designed for easier filter removal.
- Inside of frames serrated for airtight locking.
- Weighs only 1 ounce.
- Designed for use with goggles or spectacles.
- Only 4 tough long-wearing, interlocking parts.
- Non-irritating plastic frames — unbreakable in normal usage.
- Prenex filter outlasts all throw-away types. Savings pay the cost of a complete mask.

sample **$1.50** postpaid

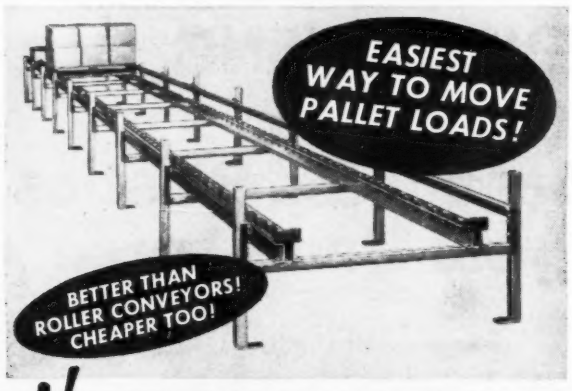
Quantity prices as low as $1.15

Positive Protection Against Pigment Overspray!

(Industrial Prices Only)

FLEXO Products, Inc. Westlake, Ohio

For more details circle NED-546 C1 on enclosed inquiry slip



New PALLETFLO CONVEYOR

Here's the simplest way to move pallet loads. Palletflo Conveyor is a wheel rail conveyor that handles all pallets—even those with broken or missing boards and protruding nails ride smoothly. Set at a pitch of 5/16" per foot, pallets move by gravity. On level runs, pallets are easily pushed along.

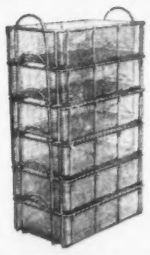
Height and pitch are fully adjustable. Standard parts make it easy to increase conveyor length. It's constructed to take it—with aluminum enameled rails and zinc coated steel frame members and guard rails.

You'll find many uses for Palletflo Conveyors in your plant or warehouse. It's an investment you'll be glad you made.

WRITE FOR CATALOG #701

M-H STANDARD CORPORATION
515 Communipaw Ave., Jersey City 4, N. J., HE 3-5834

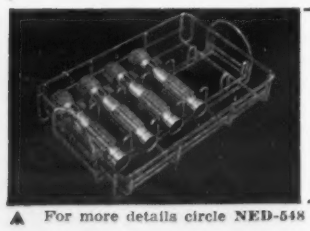
For more details circle NED-547 C1 on enclosed inquiry slip



PUT PARTS HANDLING ON A LOW COST BASIS

EEZY STAK® BASKETS

You can process parts for less money than it's costing you now by using Eezy-Stak parts handling baskets! Eezy-Staks have the exclusive patented "Inter-Lok" handles for convenient, compact stacking and storage. Parts handled safely . . . less risk of damage . . . rejects reduced. *Two types—compartmented baskets for segregated parts handling, open mesh type for bulk handling.* May be zinc-plated, plastic or neoprene-coated.



WRITE TODAY FOR BULLETIN B-57

Wire and Iron Products Inc.
1724 Sixteenth Street
Detroit 16, Michigan

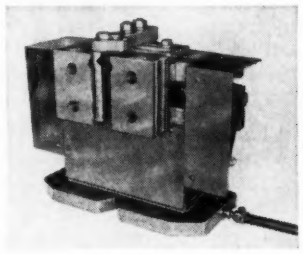
For more details circle NED-548 C1 on enclosed inquiry slip

CLOSED-TV PAN/TILT UNIT for remote control from 1000 ft

Training of a television camera both in azimuth and elevation from a remote control center at distances up to 1000 ft is possible with Models ARC-14C weatherproof and ARC-14CX explosionproof pan/tilt units. Optional control panels also provide variable speed and automatic panning, plus variable speed. They can be used with any Kin Tel closed circuit TV-camera, and are priced at $815 and $915, respectively, with a control panel. • **Cohu Electronics, Inc.**, Kin Tel Div., 5725 Kearny Villa Rd., San Diego 12, Calif.

For more details circle NED-549 C1 on enclosed inquiry slip

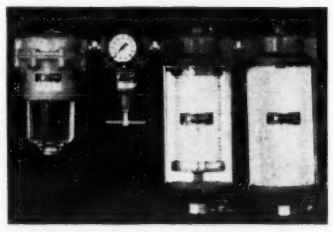
WORK HOLDING JIG operates from shop air line



This Sure-Center self-centering work holding device which operates on shop air lines is intended for drilling, tapping, milling, counterboring, and reaming on round, hex, or square stock, as well as standard or odd-shaped castings. Vise consists of two movable gibbed master jaws working from levers connected to a cam which repeatedly centers a piece part to within 0.0015 in. Operated instantly by foot pedal or valve, jig affords visibility and adequate chip room, has 2½ in. jaw opening, and grips with 5500-lb force at 100-psi line pressure. • **Heuser Mfg. Co.**, 1638 N. Paulina St., Chicago 22, Ill.

For more details circle NED-550 C1 on enclosed inquiry slip

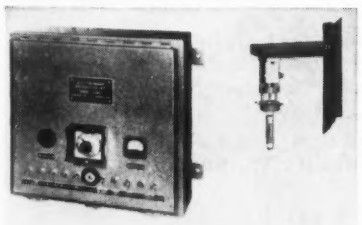
COMPRESSED AIR DRYER protects tools and equipment



Made up in standard units packaged to individual requirements, Chem-Guard dehydrator for compressed air is suited for use in paint spray, pneumatic instrument, gages, and glass-blowing systems. The first unit in the package removes entrained moisture and small dirt particles. An automatic drain discharges accumulated contaminants. The second unit is a precision regulator for controlling the pressure of the air. This is followed by an air filter which removes oil fumes. The last unit contains a silica gel desiccant which lowers the dew point of the air to −65° F. Any one or combination of units can be used. The entire system lists for about $115. • **Wilkerson Corp.**, 1633 W. Mansfield Ave., Englewood, Colo.

For more details circle NED-551 C1 on enclosed inquiry slip

METAL MARKING KIT needs no modification for production line installation

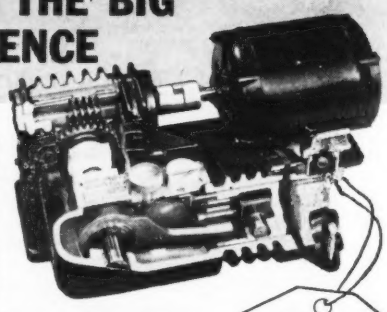


Designed for automatic production lines, the Electromark electrochemical metal marking kit requires no modification before installation. It consists of a pneumatic marking head and a JIC cabinet which is piped for air and wired. Control cabinet includes a marking-dwell timer, off-cycle timer, marking intensity meter, mark depth rheostat, four-way solenoid valve, pressure regulating valve, set-up switch, and indicating lights and switches for all functions.

Marking action is performed only when a part is in position. In-feed equipment is automatically stopped at this stage, and is started again when marking is completed. Cycle is fully automatic. Marking heads are supplied in round, square, or rectangular shapes from ⅜ in. across the smallest dimension to an area of 10 sq in. • **Electromark Corp.**, 2093 E. 19th St., Cleveland 15, Ohio.

For more details circle NED-552 C1 on enclosed inquiry slip

UNITIZED CONSTRUCTION MAKES THE BIG DIFFERENCE



Unitized construction means it's completely enclosed, locked in permanent alignment, sealed against leakage, dirt and weather. All moving parts inside run in oil. Heavy duty design includes machine cut gears, outboard bearings on pump drive shaft. Solution heads of special materials available for slurries, corrosive liquids. Four standard sizes, up to 54 GPH, pressures to 300 psi. Duplex units double the capacity with one motor.

in the new MADDEN Metriflow METERING PUMP

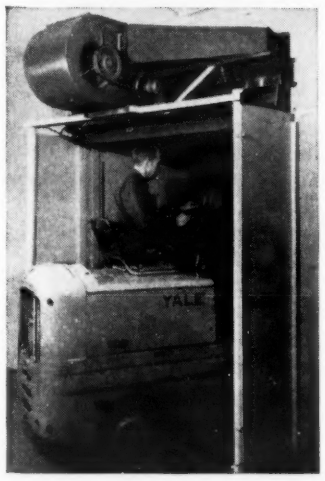
Write for complete information on the new Madden METRIFLOW Metering Pump

MADDEN **THE MADDEN CORPORATION**
1345 Jarvis Ave., Chicago 26, Ill.

For more details circle NED-553 C1 on enclosed inquiry slip

AIR ISOLATOR*

. . . opens doorways to unlimited traffic while screening out heat, cold, humidity, dust, odors, insects.



Forms a shield between areas of different temperature or humidity.

Provides high velocity curtain of vertical air across open doorways.

Permits unlimited traffic. Repels dust, cold, heat, odors or insects.

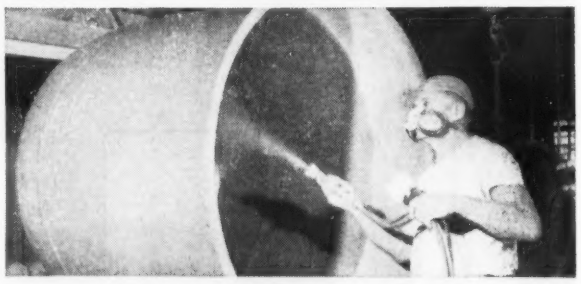
Broad application: Manufacturing, general industry, warehousing, food processing or laboratories.

*Registered trademark and product of Lehigh, Inc.

For complete information write today to Jamison Cold Storage Door Co., Hagerstown, Md.

JAMISON COLD STORAGE DOORS

For more details circle NED-554 C1 on enclosed inquiry slip



PLASTIC-COATED EQUIPMENT that resists corrosion, now available from Pfaudler

You can now get from Pfaudler a wide range of process equipment protected against corrosion by a new plastic coating based on Penton.†

Called Pfaudlon 301,* it is resistant to the corrosive effects of virtually all acids and alkalies, plus many solvents, at temperatures up to 210°F and in some cases even higher.

Since Pfaudlon 301 is sprayed on and then fired, coating complex shapes is no problem. We've put it on such items as agitators, centrifuge baskets and parts, valves, pump impellers and casings, and tanks—both *inside* and *outside*.

It can be applied to mild steel, cast iron, stainless steel, the Hastelloys, brass, bronze and copper.

Nine firms are licensed to apply Pfaudlon 301 to your existing equipment. Or you can order *new* equipment, fabricated and coated by Pfaudler with the new material.

For full details, write to our Pfaudler Division, Dept. NED-31, Rochester 3, New York.

†Hercules chlorinated polyether *Patent applied for

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

For more details circle NED-555 C1 on enclosed inquiry slip

PENLIGHT INSPECTION MIRROR

SPOT-LIGHTS THE INSPECTION!

POCKET SIZED... ALWAYS WITH YOU!

This combination penlight inspection mirror flashes a beam of light right to those dark, hard-to-see areas, and reflects the spot right back to you by means of the all-angle inspection mirror. Actually sees around corners! Clips to jacket or pocket when not in use. Mirror is 1¼" in diam., mounted on chromium-plated steel. Overall length 7½". (Batteries not included.)
E-501

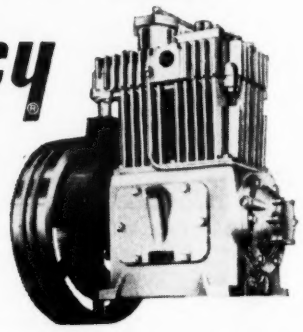
E-502
Mirror attachment only. Circular mirror, 1¼" diam., mounted on slit sleeve with ⅝" inside diameter to fit most pen-size flashlights. Meets military spec. on A-5 flashlight.

Send for free catalog Dept. NED 3-2

ULLMAN — ULLMAN DEVICES CORP. RIDGEFIELD, CONN.

For more details circle NED-556 C1 on enclosed inquiry slip

Lubrication? AUTOMATIC WITH Quincy



SAFE-Q-LUBE is the exclusive Quincy automatic pressure lubrication system that guards bearings against damage in case of oil pressure drop. If this happens, the SAFE-Q-LUBE feature automatically unloads the compressor.

An important advantage like that means less maintenance worries and longer compressor life.

Quincy compressors are built to "take it" and last longer under all conditions and to deliver a maximum of low cost, dependable air power.

Authorized Service available across the country around the clock. Models 1 to 90 CFM. *Send for catalog.*

QUINCY COMPRESSOR CO., Dept. N-361 Quincy, Ill.
Makers of the World's Finest Air Compressors

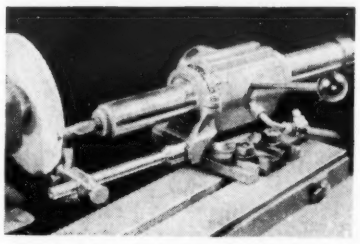
For more details circle NED-557 C1 on enclosed inquiry slip

ALUMINUM NAMEPLATES in 90 die-stamped sizes, shapes

More than 90 die-stamped sizes and shapes are offered in Autograph nameplates, data plates, instruction plates, and property control tags produced from 0.016 in. Alodized aluminum. They have a solvent-activated adhesive backing and mount easily and permanently on any clean surface, including crackle finishes. Copy is lithographed in color and protected by a clear, baked lacquer overcoating. Serial numbers can be indented and filled with black lacquer, if desired. • **Metalcraft, Inc.**, 1619 S. Federal Ave., Mason City, Iowa.

For more details circle NED-559 C1 on enclosed inquiry slip

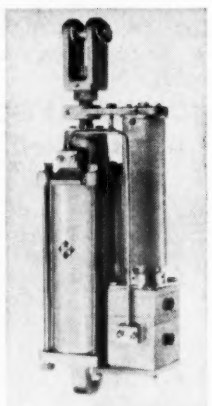
SHARPENING FIXTURE for end mills and milling cutters



Sensitive, jerk-free spindle that floats on less than a 0.00015-in. film of air is featured by the Air-Flo sharpening fixture for end mills and milling cutters. Flow of air around the sensitive air bearing prevents entrance of grinding dust and facilitates delicate sharpening of tools as small as 1/32 in. on up to 1¼-in. shank capacity. Milling cutter capacity is 6-in. diameter. Other features are a finely graduated goose-neck tilt, graduated swivel base, fine blade-rest adjustment, hard chromium inlay, indexes, and components to grind tapered as well as straight end mills. • **Harig Mfg. Corp.**, 5757 W. Howard St., Chicago 31, Ill.

For more details circle NED-560 C1 on enclosed inquiry slip

AIR-POWERED POSITIONER for valves, dampers, and controls



This compact pneumatic power positioner for valves, dampers, and other control devices will handle unbalanced loads of up to 150 lb and has a 5-in. stroke. Usable indoors or out at temperatures to 170° F, its full stroke takes only 1½ sec. At 5 per cent peak-to-peak, frequency response is 0.5 cps. It can be mounted in any position, requires no internal lubrication, and is protected against dirt and water. • **Hagan Chemicals & Controls, Inc.**, Controls Div., Hagan Center, Pittsburgh 30, Pa.

For more details circle NED-561 C1 on enclosed inquiry slip

THE MOST USEFUL TOOL IN YOUR SHOP

Economy Elevating Table

- DIE HANDLER
- LOAD LEVELER
- CONSTANT HEIGHT TABLE
- PORTABLE WORK TABLE

Dimensions.....24" x 36"
Capacity.....2000 lbs.
Lift.....24" min. to 42" max.
Price: F.O.B. Chicago $245.00

Free 10 day trial in your plant with return privilege

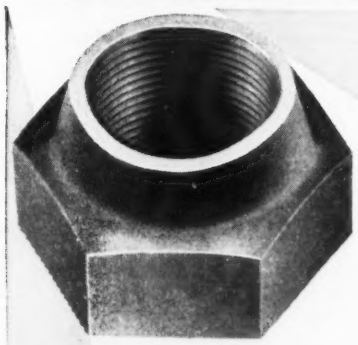
POSITIVE PERFORMANCE
Self-locking Acme screws hold load safely, securely, at any height.

COMPACT DESIGN
No projecting parts—all four sides accessible; crank studs at both ends; three table surfaces.

ECONOMY ENGINEERING 4519 W. Lake St., Chicago 24, Ill.

For more details circle NED-562 C1 on enclosed inquiry slip

New One-Piece "Conelok" with prevailing torque



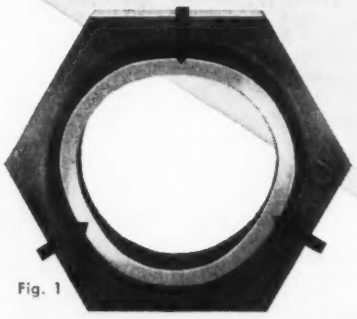


Fig. 1

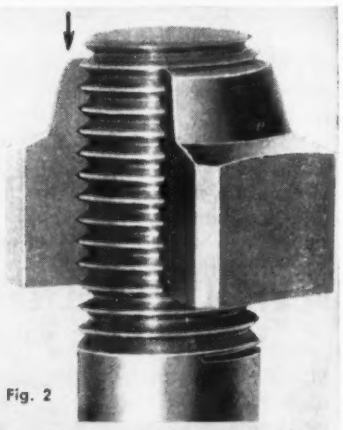


Fig. 2

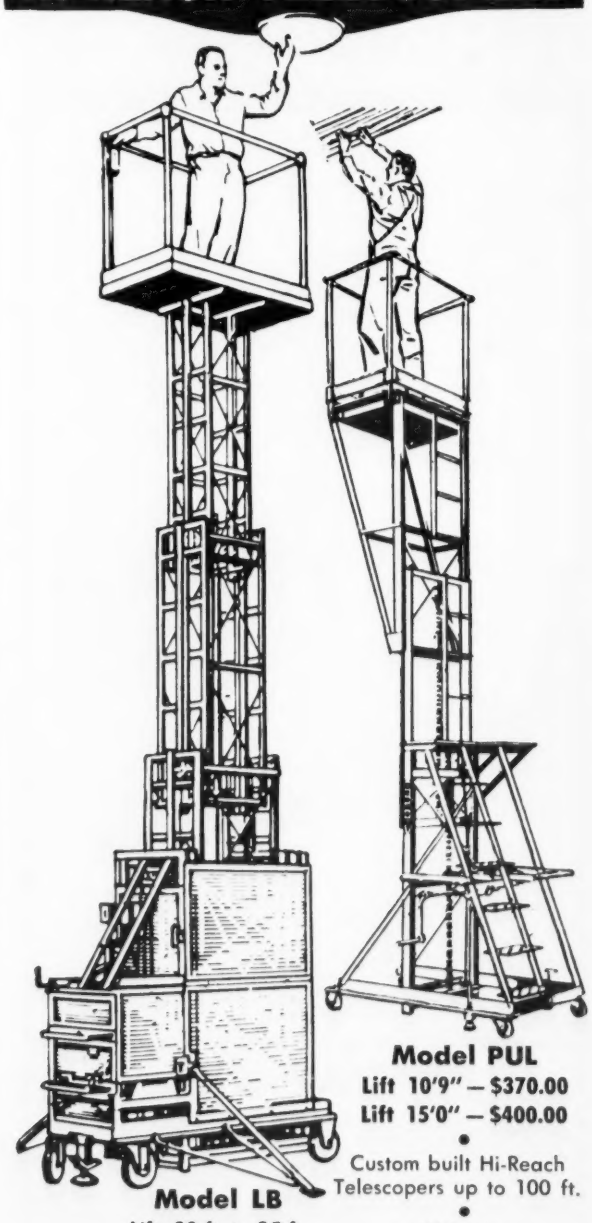
Three sectors of the tapered portion of the CONELOK nut are preformed inwardly (Fig. 1). When the Nut is applied to a bolt, these conforming sectors are elastically returned to a circular configuration and create an inward and downward pressure which produces intimate contact between the load carrying flanks of the nut and bolt threads (Fig. 2). The shape of the cone sector displacement insures conformity with the mating bolt and maximum friction contact area. . . . The closed stress path in the locking portion of the nut and the advantageous distribution of locking pressure, produce a locking device of high fatigue life . . . and equivalent locking force is exerted at only a fraction of the stress of any slotted type locknut. CONELOK maintains its locking action through many re-applications. . . . It is adaptable to high, and low torque assemblies . . . to high torque stop-nut applications . . . and may be obtained in sizes from No. 10 through 1½", Full and Thick dimensions are "Standard". . .

Send for brochure which includes complete engineering specifications.

NATIONAL MACHINE PRODUCTS COMPANY
an SPS company 44250 UTICA ROAD UTICA, MICHIGAN

For more details circle NED-558 C1 on enclosed inquiry slip

OVERHEAD SERVICING is Faster and Safer with HI-REACH TELESCOPERS



Model PUL
Lift 10'9" — $370.00
Lift 15'0" — $400.00

•

Custom built Hi-Reach Telescopers up to 100 ft.

•

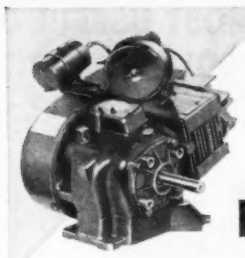
Write for complete catalog

Model LB
Lifts 20 ft. to 35 ft.
$1510.00 up

Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING
4519 W. Lake St., Chicago 24, Illinois

For more details circle NED-563 C1 on enclosed inquiry slip



When TIME Out is PROFIT Out, SPECIFY RED SEAL POWER

Users' experience proves beyond doubt that, machine for machine, there's LESS DOWN TIME with Continental air-cooled power. Some of the reasons why:

Dependable 4-stroke cycle principle . . . rugged cast iron construction . . . patented Contex external ignition system for servicing speed and ease . . . heavy-duty components throughout. Available as optional extras are locked-in bearings, standard or heavy-duty recoil starter, electric starter and generator, automatic low oil level ignition cutoff, forged connecting rods, special power take-offs to fit any requirement.

The more pressing your need for uninterrupted engine operation, the stronger the reason for specifying dependable Red Seal power.

FOR FULL INFORMATION, ADDRESS:

Continental Motors Corporation
INDUSTRIAL AIR-COOLED ENGINE DIVISION
12800 KERCHEVAL AVENUE • DETROIT 15, MICHIGAN

CONTINENTAL MOTORS ® Powerful as the Nation AMERICA'S STANDARD

▲ For more details circle NED-564 C1 on enclosed inquiry slip ▲

FREE 2 VALUABLE GUIDES

TO AID YOU WHEN SELECTING
PNEUMATIC CONVEYING AND BULK STORAGE TANKS

BULLETIN M-260 — 12 page DAY pneumatic conveying guide just off the press. Discusses types of systems, illustrates and diagrams high and low density arrangements, shows equipment and tells "why" and "wherefore" of all types of pneumatic conveying including so-called fluidizing systems.

BULLETIN 574 — 12 pages, describes horizontal and vertical storage tanks. Points out savings and is filled with photos of various installations plus description of auxiliary equipment.

Whatever your pneumatic conveying or bulk storage problem, look first in these DAY bulletins. They are valuable aids in selecting and ordering the right equipment for your plant. For your free copies use reader service card of this magazine or write direct toDAY.

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☐ Send Bulletin M-260 ☐ Send Bulletin 574
☐ Have DAY field sales engineer contact me.
We need information concerning _____
NAME _____
COMPANY NAME _____
ADDRESS _____
CITY _____ STATE _____

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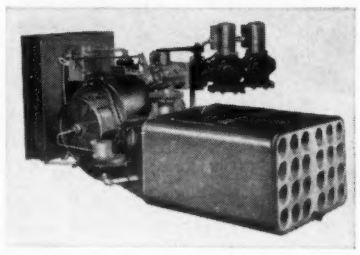
DIPPING BASKET CONTAINER
available in 1½ and 6-gal sizes

Cleaning or applying protective coatings to tools, machine parts, and other items are uses for the Jaldip 1½ and 6-gal size container and dip - strainer basket. Both units are made of steel. The container head has a lug cover or lever ring closure, and is completely removable. Basket has a perforated bottom for quick draining, hooks for attaching it to the container during draining, and legs to keep it clear of sediment on the container bottom. Respective inside heights are 7⅛ and 14½ in. and diameters are 8⅜ and 11¼ in. Other sizes and designs are available. • **Jones & Laughlin Steel Corp.**, Container Div., 3 Gateway Center, Pittsburgh 30, Pa.

▲ For more details circle NED-566 C1 on enclosed inquiry slip ▲

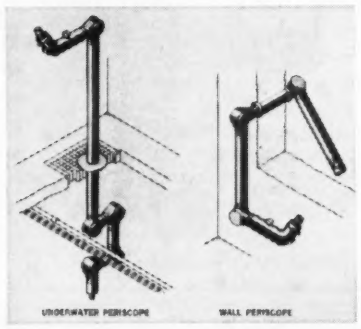
AUTOMATIC GAS BURNERS
sizes to 35 million Btu per hour



Six burner sizes in 15 burner assembly variations are available in Custom Fan-Air line of automatic motorized mechanical draft gas burners. "Building block" units have capacities to 35 million Btu per hour. Variations permit burner selection to meet many code requirements and regulations. The inshot type burners have these standard interchangeable parts: Four different valve-manifold assemblies; seven control cabinet arrangements; and three optional assemblies for stand-by oil firing. Assembled, wired, and tested at the factory, the burners are shipped with combustion safeguards, ready to install. • **Mettler Co.**, 1101 Buchanan St., Rockford, Ill.

▲ For more details circle NED-567 C1 on enclosed inquiry slip ▲

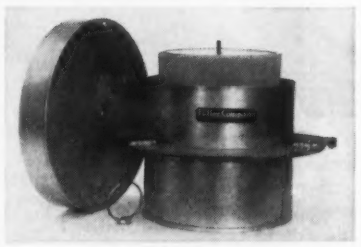
MODULAR PERISCOPE
assembled in various configurations



Varying remote observation needs can be met by this modular periscope which can be assembled for one application, then disassembled and reassembled for an entirely different use. Only a spanner wrench and screwdriver are required for assembly to various lengths and configurations. It embodies an angular eyepiece telescope, relay sections in varying lengths, elbow fitting, and several viewing heads. Use can be under adverse conditions of heat, gas, pressure, and radioactivity. Through-wall and under-water models are available. • **Kollmorgen Corp.**, 347 King St., Northampton, Mass.

▲ For more details circle NED-568 C1 on enclosed inquiry slip ▲

PORTABLE AIR FILTERS
for pneumatic unloading systems



Material being handled by vacuum type pneumatic unloading systems is kept free of contamination by use of two efficient portable air filters. The intake type filters air taken into the conveying system itself, and the hatch unit (shown) filters air drawn into the bulk carrier during unloading. Intake type attaches to the car unloading nozzle by means of a slip coupling, and the car vent filter is placed directly on an open car hatch. Both units are made of stainless steel and aluminum and feature a replaceable cartridge that can be washed and reused. • **Fuller Co.**, Catasauqua, Pa.

▲ For more details circle NED-569 C1 on enclosed inquiry slip ▲

ROLLPIN® SHOP KIT $12.00

The Rollpins in this handy compartmented kit serve the function of taper pins, straight pins, set screws, rivets, dowels, cotter pins, etc. They're slotted, chamfered, tubular spring pins that exert constant pressure against the walls of the holes into which they're driven. They won't loosen even under severe vibration. Over 700 Rollpins; diameters from 1/16" to ½" — lengths from 3/16" to 3¼".

We guarantee you'll find Rollpins the easiest, quickest solution to hundreds of fastening problems in machine, repair and prototype assembly shops.

Send for Rollpin Kit #300 today. Mail check or purchase order for $12.00 (we pay postage). No C.O.D.'s please. Write: Dept. R57-337

ROLLPIN TRADEMARK
ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Rd., Union, New Jersey

▲ For more details circle NED-570 C1 on enclosed inquiry slip ▲

You can even read this scale around corners—up to 100 ft. away!

only Martin-Decker has this Eye-Level Remote Indicating Crane Scale!

Minimum headroom requirement gives you more stacking space • Full 360° dial makes indicator easier to read, more accurate • Exclusive sensater-type load cell eliminates surface friction • Full tare adjustment to manually zero out boxes, baskets, hooks, etc. • High safety factor — ultimate strength more than 5 times rated capacity. Dial crystal is shatter resistant optic plastic • All scales available in metric calibrations.

Write for Technical Brochure T43

The standard Martin-Decker Sensater Crane Scale has all of the precision features of the remote model.

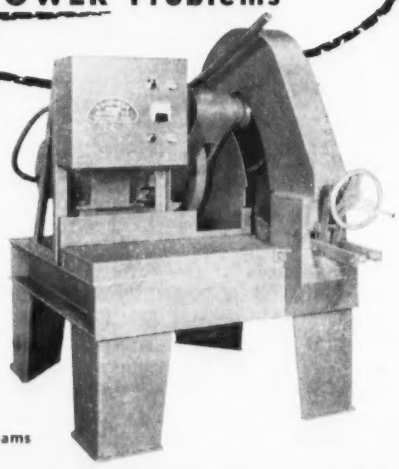
MARTIN DECKER
Precision Pressure Instruments Testing—Weighing—Load and Force Measurement

MARTIN-DECKER CORPORATION • 3431 Cherry Ave., Long Beach 7, Calif.

▲ For more details circle NED-571 C1 on enclosed inquiry slip ▲

Big 30HP "CHOP" Saw Ends UNDERPOWER Problems

CUTS
- Steel structurals
- Bar stock
- Heavy cable
- Pipe
- Test sections
- Forging blanks
- Extrusion blanks
- High temperature alloys
- Rigging steel
- Fixtures and jigs
- Cross ties
- Heavy wooden beams



Now . . . power *when* you need it—*where* you need it—with the big 30 HP "CHOP" Saw for wet or dry cutting. Advanced features include more powerful main motor, sealed-bearing spindle, timing belt drive, and a new dynamic suspension system that permits light fingertip feed without springs, counterweights or adjustments. Provides straight or variable-speed oscillating feed at option of operator. Screw-operated double vise quickly adjusts to handle up to 8" x 8" sections or solids.

Ty-Sa-Man SINCE 1885

Write for FREE BROCHURE
TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

▲ For more details circle NED-572 C1 on enclosed inquiry slip ▲

HOMOFLEX AIR HOSE

"FLEXIBLE AS A ROPE"

- STRONG
- LIGHT
- KINKLESS

More flexible and lighter than any other hose for equal pressure. Lasts longer, precision built, uniform diameter, lower end cost. Made also in extra-heavy type for mining.

Write for Catalog M610.

RM 1014

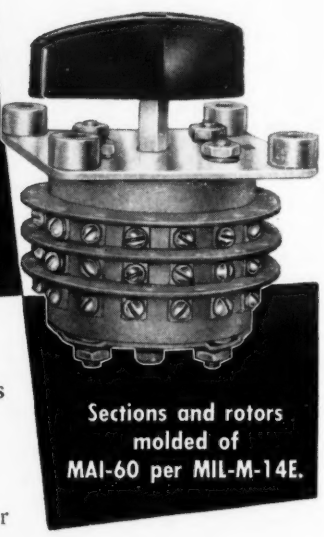
Engineered Rubber Products . . More Use Per Dollar

RAYBESTOS-MANHATTAN, INC.

MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

▲ For more details circle NED-573 C1 on enclosed inquiry slip ▲

TYPE **JK** ROTARY SWITCH manufactured in accordance with MIL-S-21604 and BuShips Drawing Number 815-1853013.



Sections and rotors molded of MAI-60 per MIL-M-14E.

ESCO Type JK rotary switch provides unlimited rotation in both directions.

Movement can be limited to any number of 16 positions.

Electrical rating: up to 5 amperes, 125 volts a-c.

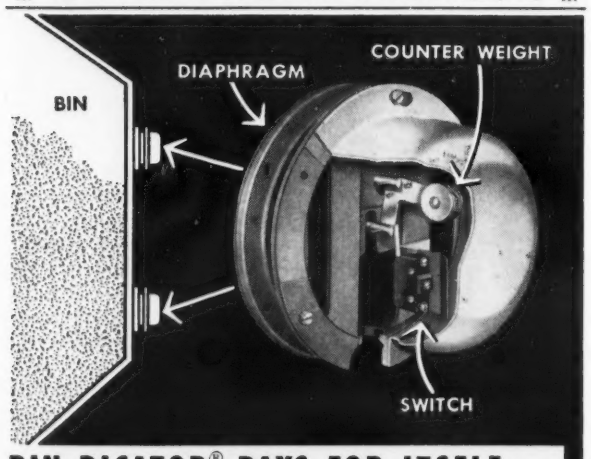
Write for Bulletin No. 19

ESCO of WEYMOUTH

ELECTRO SWITCH CORP.

Weymouth (Boston 88), Massachusetts

▲ For more details circle NED-574 C1 on enclosed inquiry slip ▲



BIN-DICATOR® PAYS FOR ITSELF FIRST TIME IT PREVENTS BIN OVERFLOW, CONVEYOR CLOG, ELEVATOR CHOKE-UP, MACHINERY DAMAGE, REPAIR SHUT-DOWN

If you handle bulk material you probably need Bin-Dicators. The nominal cost of this protection and automatic control makes it the lowest-cost modernization you can buy. Available with Explosion-Proof Switch.

THE BIN-DICATOR CO.

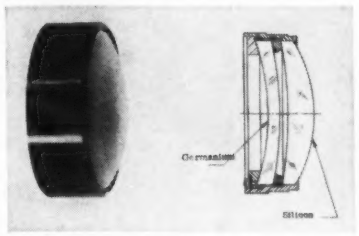
13946-A Kercheval • Detroit 15, Mich.

Write for free copy of catalog BD-15 or call VAlley 2-6952

WE SELL DIRECT • PHONE ORDERS COLLECT

▲ For more details circle NED-575 C1 on enclosed inquiry slip ▲

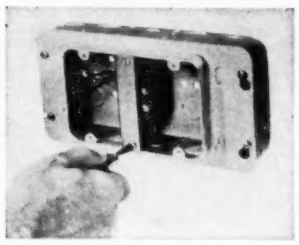
INFRARED ACHROMAT LENSES
8-14 micron units added to line



Achromat lenses for high resolution in the infrared spectrum are now available in the 8 to 14-micron range. These lenses have been added to the present 1 to 6-micron range. Used in missile aiming and guidance systems, as well as infrared vidicon systems, lenses also have broad industrial use. A new computer program, also announced by company, will aid in custom designing infrared achromats to fit specific applications. After evaluation of requirements and determining their feasibility, performance and materials data are fed into the computer which quickly supplies lens manufacturing data. • **Servo Corp. of America**, 111 New South Rd., Hicksville, L. I., N. Y.

▲ For more details circle NED-576 C1 on enclosed inquiry slip ▲

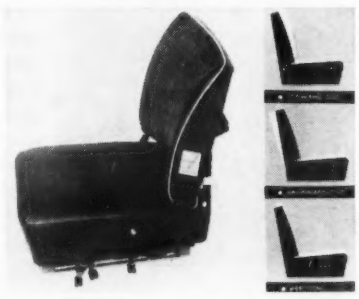
LOW VOLTAGE TRANSFORMERS
have circuit breaker protection



Self-restoring circuit breaker is incorporated in Series 990 low voltage transformers, suited for original equipment use in signaling, control, communications, and protection systems and products. Compact units are made in 5-w, 10-v and 10-w, 16-v ratings, plus a tri-volt model rated at 6-12-18 v and delivering 4.5, 7, and 8.8 w, respectively. All operate on 120-v primary. The circuit breaker is mounted within the transformer coil for rapid response to increasing coil temperature. Models 991 and 993 can be flush mounted in multigang outlet boxes; expandable collars on Easi-Mount models permit quick mounting outside junction or outlet boxes; metal flanges make possible installation on any flat surface. • **Edwards Co.**, Post Hill Road, Norwalk, Conn.

▲ For more details circle NED-577 C1 on enclosed inquiry slip ▲

TILT-CONTROL SEATS
adjustable to 675 positions



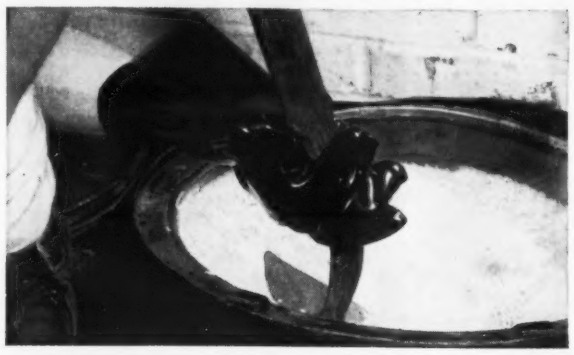
Easy-to-use controls raise Unison-Action mobile equipment seats up to 2 in. at the rear, 1 in. at the front, and can be used for vertical elevation. Tilt mechanism allows adjustment to 675 positions. Seats incorporate a full-floating back and two-way contouring. Used with regular back adjustment, air cushion control, and smooth slide tracks, the drivers are able to "tailor" seats to their individual physical requirements and driving habits. Positive lock prevents jumping out of position. • **American Metal Products Co.**, Unison-Action Seat Dept., 5959 Linsdale Ave., Detroit 4, Mich.

▲ For more details circle NED-578 C1 on enclosed inquiry slip ▲

HIGH SPEED COUNTER
registers 250 impulses per second

A dekatron tube, a transistorized pulse shaper-amplifier, and a Sodeco totalizing counter comprise the principal stages of this Type 4TiF6EM impulse counter which will register 250 impulses per second. Electric impulses are introduced at the dekatron stage and, with each impulse, a glowing spot advances one digit around the periphery of this cold cathode counting tube. Glow makes a complete revolution on ten impulses. With each revolution, a pulse is transferred to the shaper-amplifier stage to advance the totalizing counter stage. Since counter rating is 25 impulses per second, a package counting speed of 250 impulses per second is achieved. The flush mounted unit operates on 16.5 w of 110-v ac. • **Landis & Gyr, Inc.**, 45 W. 45th St., New York 36, N. Y.

▲ For more details circle NED-579 C1 on enclosed inquiry slip ▲



EDMONT CASE No. 673: Handling caustic soda, $21 a dozen rubber gloves wore out in 5 shifts. Edmont recommended a gauntlet coated with reinforced neoprene (No. 922 Neox), which wore 20 shifts, reducing glove costs 83%.

Outwore rubber gloves 4 to 1

In the case above, the *job-fitted* glove reduced glove costs from 4½¢ per man-hour to ¾¢. Its reinforced neoprene coating gives best all-around resistance to caustics, chemicals, snags, abrasion and heat. Wing thumb and curved fingers improve fit and grip.

Free Test Offer to Listed Firms: Tell us your operation. From more than 50 types, we will recommend correct *job-fitted* gloves and send samples for on-the-job testing.

Edmont Inc., 1240 Walnut Street, Coshocton, Ohio. In Canada, write Edmont Canada Ltd., Cowansville, Quebec.

Edmont JOB-FITTED GLOVES

▲ For more details circle NED-580 C1 on enclosed inquiry slip ▲

Clarke POWER SWEEPERS

Walking Type power sweepers in 27" and 36" swath sizes. Riding sulky available for 36" size.

Riding Type sweeps 36" swath, is easily maneuvered, even in congested areas.

Heavy Duty Riding Type sweeps 36" swath, is built like a tank for 'round the clock use.

CUT SWEEPING COSTS UP TO 80%

These rugged workhorses will outstrip twenty men with pushbrooms in sweeping large floor areas! They cover from 35,000 to 100,000 sq. ft. per hour, sweeping right up to the walls, picking up all debris and dust. Available in walking, sulky and riding types to reduce your sweeping costs as much as 80% . . . *give you labor costs as low as 15c per hour!*

For a demonstration on *your* floors, write for full details and name of your nearest Clarke Power Sweeper distributor.

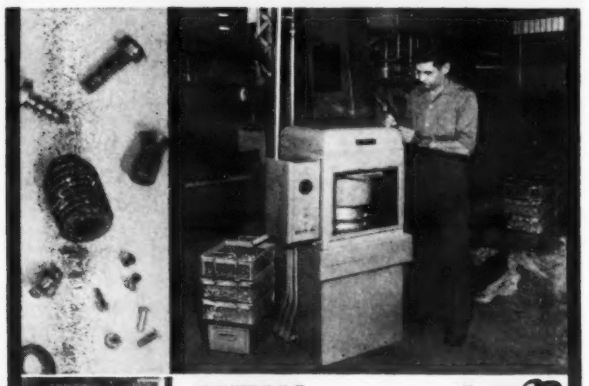
Clarke FLOOR MACHINE COMPANY

DIVISION OF STUDEBAKER-PACKARD CORPORATION

223S Clay Avenue
Muskegon, Michigan

Authorized Sales Representatives and Service Branches in Principal Cities
IN CANADA: Clarke Floor Machine Co., (Canada) Ltd., 21 Advance Rd., Toronto 18, Ont.
DISTRIBUTED BY: Rudel Machinery Company Limited, Montreal 3, Quebec

▲ For more details circle NED-581 C1 on enclosed inquiry slip ▲



NEW

VIBRA *Bantam*

IN-LINE DEGREASER

Manpro Vibras utilize a unique vibrating spiral elevator to move work rapidly up through non-flammable cleaning solvents and vapors.

This compact yet mighty degreaser (only 20 in. sq.) is priced and engineered to revolutionize production degreasing. Now, equip every small part manufacturing machine in your plant with a new Vibra *Bantam* at surprisingly low cost. Eliminate dripping tote pans. Cut manpower. Parts feed automatically, emerge chipfree, dry—ready for immediate inspection.

Write today for complete data on the New Vibra *Bantam*

MANPRO CORPORATION
1360 HILTON ROAD, DETROIT 20, MICH.

For more details circle NED-582 C1 on enclosed inquiry slip

NEW 72-page GAGE and CONTROL Catalog

..tells where to use them..

..WHY and HOW!

Illustrates instruments and gages...*diagrams* their installation and on-the-job use... *charts* valuable performance data.

For the efficient measurement of combustion • draft • pressure • flow • vacuum • CO_2 • smoke • velocity • static pressure • pressure differential • temperature • and others.

Write for your free copy of this valuable book today!

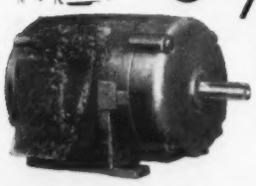
Dwyer CONTROLS GAGES

F. W. DWYER MFG. CO.
P.O. BOX 373-Q, MICHIGAN CITY, INDIANA

For more details circle NED-583 C1 on enclosed inquiry slip

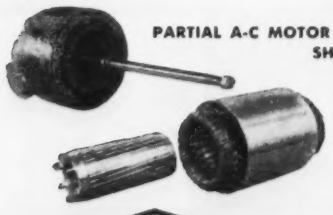
Standard and Special-Purpose IMPERIAL ELECTRIC MOTORS

Computer Designed ...AND PROVED



DRIP-PROOF A-C MOTOR—*Today's Best Buy for Most Applications—Ratings from 1 to 200 Hp.—Designs Include Flange and Face Types, Multi-Speed, etc.*

WOUND-ROTOR MOTOR—*Open Construction—Allows Easy Access for Inspection and Excellent Ventilation and Self-cleaning Action—From ½ to 150 Hp.*



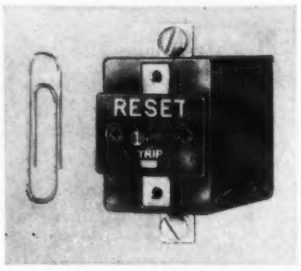
PARTIAL A-C MOTOR . . .

SHELL-TYPE SHAFTLESS MOTOR . . . *Other Special or Specific Types . . . Provide Maximum Power in Minimum Space . . . Blend with Basic Design of Machines.*

IMPERIAL ELECTRIC COMPANY
84 Ira Avenue • Akron 9, Ohio

For more details circle NED-584 C1 on enclosed inquiry slip

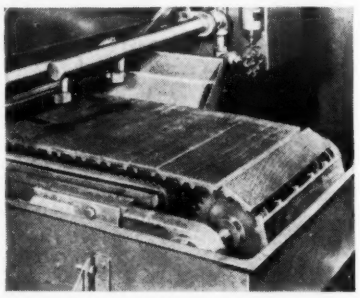
CIRCUIT BREAKER features auxiliary switching



Small size CB-3700 circuit breaker features a separate circuit for auxiliary switching in electronic/aircraft applications. This circuit telemeters the off or on condition of the breaker. It is isolated from the tripping circuit and can be used to activate relays, energize other gear, or give warning when breaker trips. Ratings range from ½ to 50 amp. Unit has life expectancy of over 10,000 cycles, will withstand more than 25 g shock, and resists sand, dust, and corrosion. • **Wood Electric Corp.**, 244 Broad St., Lynn, Mass.

For more details circle NED-585 C1 on enclosed inquiry slip

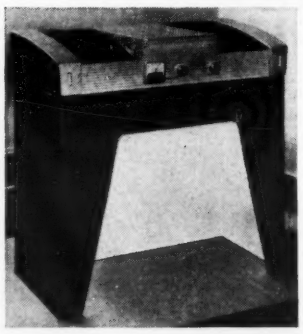
CHAIN BLOCK CONVEYOR for oscillating belt grinder



Grinding a surface on a workpiece of almost any shape is possible on a Tri-Matic oscillating belt grinder equipped with an easily fixtured chain block conveyor. By arranging the conveyor drive for reciprocating action, the machine grinds the full width of the table in one pass. Fixtures can be bolted to the chain blocks, located on pins or against stops, or attached in other ways. Close tolerances can be held. Chain blocks can also be covered with neoprene or other materials and operated as an endless conveyor for grinding, buffing, and polishing flat parts and sheets. • **Sales Service Mfg. Co.**, 2363 University Ave., St. Paul 14, Minn.

For more details circle NED-586 C1 on enclosed inquiry slip

DAYLIGHT GENERATOR produces qualities of natural light



Accurate identification and comparison of colors is possible with the Gamain generator which "reconstructs" natural daylight. It produces all the qualities of natural daylight, but can also be used for observing a color under any variation of artificial light. The generator makes use of color filters and incandescent, fluorescent, and ultraviolet tubes, the light output of which is blended by preset controls to duplicate the desired type of light. Color temperature of light, read in degrees Kelvin, is used to check light qualities. Illustrated table top generator is sold ready to operate on any 115-v, 60-cycle, single-phase outlet. • **Gamain Co.**, Fifth & Richmond, Kansas City, Kans.

For more details circle NED-587 C1 on enclosed inquiry slip

PORTABLE DRILLING HAMMERS gasoline engine and electric powered

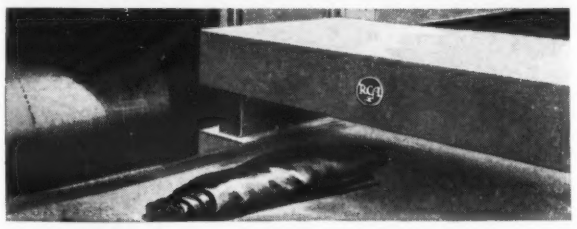
Shock waves developed by the Demo portable gasoline rotary hammer (top) are utilized for drilling rock, reinforced concrete, and masonry to considerable depths. A heavy duty McCulloch gasoline engine supplies the power for making 40,500 shock waves and 8250 impacts per minute. Holes from ½ to 8 in. in diameter can be drilled. Also available are 115 v ac-dc portable electric rotary hammers (bottom) with the same drilling capacity. Both types are one-man operated and require little pressure for difficult overhead, horizontal, or angle jobs. • **Demo Tool Corp.**, 1001 Colorado Ave., Santa Monica, Calif.

For more details circle NED-588 C1 on enclosed inquiry slip

Protect your product and machinery with the RCA Electronic Metal Detector

Tramp metal is a threat that no plant can afford. So, today, hundreds of plants are using this special electronic equipment to safeguard their investment in costly equipment and product. Highly sensitive, it automatically detects all kinds of metal, both magnetic and non-magnetic. Inspects powdered, bulk, sheet or packaged materials.

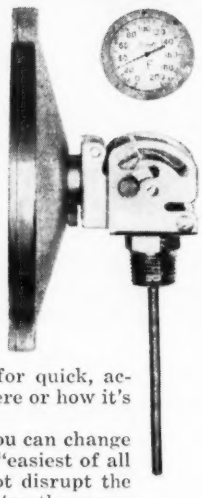
RCA Metal Detectors can quickly pay for themselves in your operation in longer machinery life, reduced downtime and increased profits. Get this protection at once. Write to RCA, Dept. S-329, Building 15-1, Camden, N.J.



RCA The Most Trusted Name in Electronics
RADIO CORPORATION OF AMERICA

For more details circle NED-589 C1 on enclosed inquiry slip

New Rochester "ANY-ANGLE" THERMOMETER *adjusts easily to any viewing position...*



Fully adjustable to any angle for quick, accurate reading regardless of where or how it's mounted.

With the new "Any-Angle," you can change the viewing angle at any time—"easiest of all to adjust." Its flexibility will not disrupt the top performance of this *Rochester* thermometer's precision made parts.

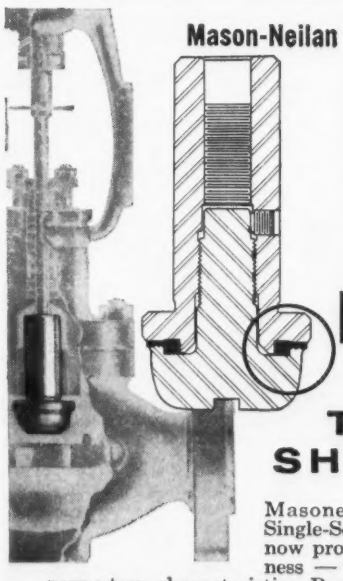
Write for complete information:
American-Standard, Controls Division
Rochester Instruments Plant
114 Rockwood St., Rochester 10, N. Y.

ROCHESTER

AMERICAN-Standard CONTROLS DIVISION

For more details circle NED-590 C1 on enclosed inquiry slip

Mason-Neilan 20,000 Series



New Soft-Seat Design FOR TIGHT SHUT-OFF

Masoneilan high capacity Single-Seated Control Valves now provide soft seat tightness — without sacrifice of percentage characteristics. Permits static pressures and pressure drops to 500 psi. Soft seat inserts available in Buna-N, Teflon and Glass-filled Teflon to meet varying conditions. Soft seat plugs available in sizes from 1" to 10". See your Mason-Neilan representative or write direct.

Products that Work for Your Profit

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan St., Norwood, Massachusetts

For more details circle NED-591 C1 on enclosed inquiry slip

NEW SAFETY GREEN* BOWLS

*TRADEMARK

for compressed-air-line filters and lubricators

Fully transparent for quick, visual inspection—yet super-tough, impact-resistant. Eliminates need for bowl guards or wire reinforcements, reduces bowl replacement cost, cuts air-tool and equipment down-time, provides greater employee safety.

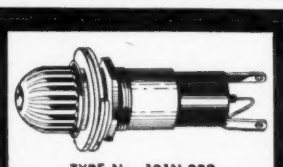
SAFETY GREEN bowls are optional on most current models of Norgren Filters and Lubricators or are available as replacements.

FOR COMPLETE INFORMATION about Norgren SAFETY GREEN Bowls, call your local Norgren Representative listed in your phone directory or write for free illustrated brochure NA-6.

C. A. NORGREN CO.
3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO

For more details circle NED-592 C1 on enclosed inquiry slip

Now—20 TIMES BRIGHTER Neon Indicator Light Assemblies!


TYPE No. 101N-022

This DRAKE Assembly — No. 101N-022 — is ideal for use with the new G.E. NE-51H High Brightness Neon Glow Lamp, for 125V AC operation. According to the manufacturer, the lamp gives 20 times more illumination than old style neons. Since useful life is 5000 hours, replacement is made easy with Unit No. 101N-022; bulb flickering warns of time to change. Less than ¼ watt power required for operation.

No. 101N-022 has built in 22,000 ohm resistor — is available with plain or fluted glass or plastic domed lenses, solder or screw terminals. Also available for 250V application (Unit No. 101N). Commercial units are UL listed. This style can be supplied to meet MIL specs.

★ SEND FOR FREE SAMPLE, DATA SHEET, and Quick-Reference Catalog of other Assemblies and Lampholders in the big DRAKE line.

DRAKE MANUFACTURING COMPANY
4624 N. OLCOTT AVENUE • CHICAGO 31, ILLINOIS

MINIATURE LIGHTING SPECIALISTS

For more details circle NED-593 C1 on enclosed inquiry slip

NEW!

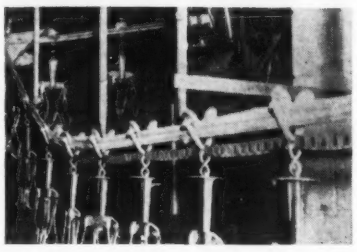
PULL TESTERS

Accurate... fast... compact... low-cost... portable. Hunter's new Pull Tester offers all these advantages. Air-operated, this tester is made in 6 ranges up to 500 lbs. Write for Bulletin 750e.

HUNTER SPRING COMPANY
A Division of American Machine and Metals, Inc.
14 Spring Avenue, Lansdale, Pennsylvania

For more details circle NED-594 C1 on enclosed inquiry slip

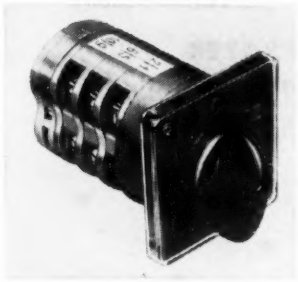
OVERHEAD CONVEYOR
is light-duty powered system



Readily made up of standard components to meet practically any route or handling need, Econo overhead trolley conveyor system is driven by an economical ¼-hp motor through a speed reducer. It can be made to turn corners or travel from plane to plane. The tubular carrying rail, tubular connectors, drive chain, 180-lb capacity ball bearing trolleys, sprocket type idler corners, and power drive unit corners are adaptable for a wide range of material handling operations. • **Econo Mfg. Co.**, Celina, Ohio.

For more details circle NED-595 C1 on enclosed inquiry slip

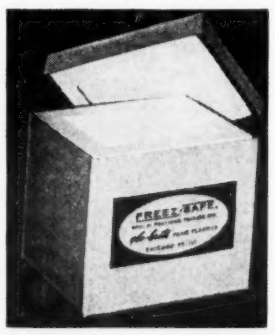
ROTARY SWITCH
20-amp unit controls 16-hp motor



Modular designed 20-amp 600-v ac rotary switch can be used for motor control up to 16 hp, as well as for instrumentation and control circuits. Unit contains two isolated double-break silver-alloy contacts in each stage. Twelve stages can be combined to form a single column of 24 contacts, and four columns arranged in tandem will control up to 96 contacts over 18 positions. A variety of cam-operated contact arrangements is feasible and can be assembled from modules in stock. Components are resistant to humidity, salt spray, and fungus. Mechanical life to 5 million operations is assured. • **American Solenoid Co.**, U. S. Highway 22, Union, N. J.

For more details circle NED-596 C1 on enclosed inquiry slip

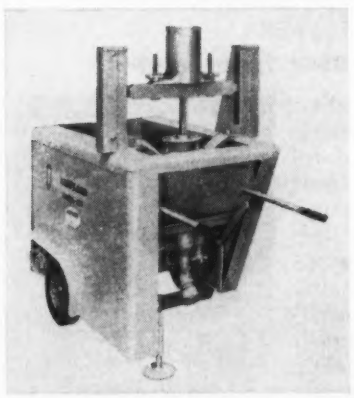
FOAM INSULATED CONTAINERS
for low temperature storage uses



Industrial uses for Freez-Safe line of foam plastic insulated containers include product and material storage at low temperature. Units have outer cases of plastic - treated fiberboard and expanded polystyrene walls which range in thickness from 1 to 2½ in. Cases can be repeatedly cleaned with just a damp cloth and can hold perishables for as long as 36 to 48 hr without dry ice or electrical refrigeration. They range in capacity from 1 to 5 cu ft, with outside dimensions to 28 x 19 x 28 in. Some models have an outer case of Royalite industrial plastic and carrying handles. • **Glo-Brite Foam Plastic**, Polyfoam Packers Div., 6415 N. California Ave., Chicago 45, Ill.

For more details circle NED-597 C1 on enclosed inquiry slip

GROUTER & MUD JACK
for soil stabilization, backfilling

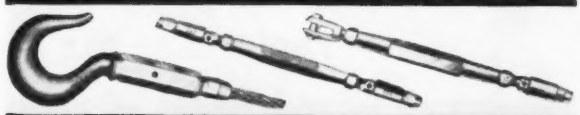


The 600-lb Model HJ - 11 Hydra - Jak combination mud jack and sand-cement grouter delivers up to 85 cfh at pressures up to 150 psi. In soil cement applications it is useful for slab raising and leveling (mud jacking), soil stabilization, and underpinning. The combination unit backfills sewers, tunnels, and forms when used as a grouter. Permanently lubricated roller chain drive with coil spring overload takes up the slack of an overload or stoppage. Equipment has wheelbarrow type handles, two 12 x 3:00 semipneumatic tires, and ball bearing wheels. • **Air Placement Equipment Co.**, 1000 W. 25th St., Kansas City 8, Mo.

For more details circle NED-598 C1 on enclosed inquiry slip

APPLY—in no time

HANG ON—for all time



Electroline

WIRE ROPE FITTINGS—

How to put an end to excessive re-roping costs—use Electroline fittings.

- rope lasts longer—exclusive Electroline fittings damp vibration, real trouble-insurance
- easy to put on—just ordinary tools, no molten metal
- use them over and over

It's a complete line—a type and size for every need. Get the whole money-saving story—send for handy illustrated catalog.

Electroline PRODUCTS
THE SUPERIOR SWITCHBOARD & DEVICES COMPANY
Box 590, Canton 1, Ohio • In Canada: Box 158, Brampton, Ont.

For more details circle NED-599 C1 on enclosed inquiry slip

SAVE ON SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

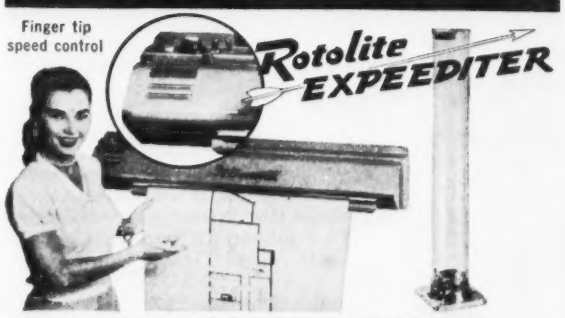
You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

For more details circle NED-600 C1 on enclosed inquiry slip

BETTER FAST WHITEPRINTER at LOWEST PRICE

Finger tip speed control



FOR INDIVIDUAL OFFICE USE

Finger tip speed control for whiteprints, sepias and foils. Fastest Diazo Lamp on market. Priced below all other makes. Rotolite prices start at $129.50.

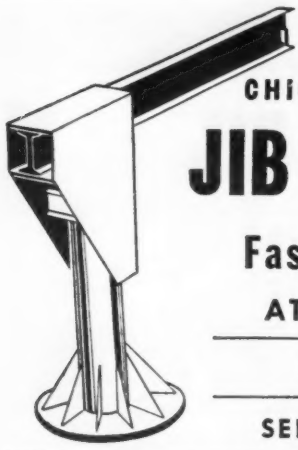
SEND THIS COUPON

Phone MIllington 7-1040

ROTOLITE SALES CORP., Stirling, N. J.
Please send literature on Rotolite "Expeediter"

Name_____
Concern_____
Address_____ City_____ State_____
C-3

For more details circle NED-601 C1 on enclosed inquiry slip



CHICAGO TRAMRAIL

JIB CRANES

Faster Handling

AT LESS COST

360° SWING

SELF-SUPPORTING

CAPACITIES FROM 1½ TO 5 TONS

A complete line of Jib Cranes including Wall Bracket Type with 180° rotation, Self-Standing Column Type with 220° rotation; also heavy duty and light duty Self-Supporting Type with 360° rotation. Mast type with top and bottom supports. Top bearing is bronze and a tapered precision bearing is at bottom.

CHICAGO TRAMRAIL CORPORATION
1310 S. Kostner Avenue • Chicago 23, Illinois

For more details circle NED-602 C1 on enclosed inquiry slip

MICRO SWITCH Precision Switches

Neon Check Light... Signals Operating Position!

The new "LS" Limit Switch has a translucent plastic insert and enclosed neon light that tell at a glance whether the switch is functioning. Perfect answer for checking switches that must be located in inaccessible or poorly lighted areas, or where it is important to be able to check a large number of limit switches on a production line in minimum time. The new switch is an addition to MICRO's line of compact, high capacity "LS" Limit Switches.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

For more details circle NED-603 C1 on enclosed inquiry slip

RUGGED for long and constant service

The Coffing Quik-Lift Series S Electric Hoist is designed and made to give dependable cycling service day after day on your production lines. To reduce wear and down-time the gearing system employs the patented Perry Speed Reducer in which more teeth are in mesh than any other type of system.

Long service life also is built in with a heavy-duty motor—oversize brake—safety limit switch—high strength, wear-resistant load sheave—alloy steel link chain—forged alloy hooks—heavy-duty ball bearings—lifetime lubrication and precision machined housings. Twelve models with ½ to 3-ton capacities available. Ask your distributor or write for Bulletin ADH-75.

COFFING HOISTS

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-604 C1 on enclosed inquiry slip

COOLANT RECLAIMER
processes chips, turnings, borings

As much as 2½ to 3 gallons of cutting oil or coolant is contained in 100 lb of metal chips, turnings, grindings, and borings, and up to 99 per cent of it can be removed by the Olson Chip Wringer. In about 3 min it reclaims more oil than is reclaimed in 12 to 24 hr in a settling tank. Machine features a dynamically balanced sheet iron basket, Meehanite metal curb and base, self-balancing spindle, automatic spindle oiler, self-locking and spring-cushioned brake with electrical interlock, and vertical motor V-belt drive with pushbutton operation. • **American Laundry Machinery Industries,** Olson Filtration Engineers, 5024 Section Ave., Cincinnati 12, Ohio.

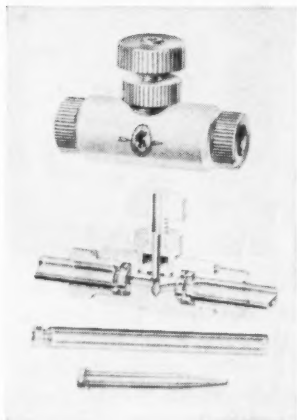
For more details circle NED-605 C1 on enclosed inquiry slip

SMALL ELECTRIC SPRAYER
refillable type for light liquids

Bantam-size refillable electric sprayer is designed for spraying light oils, water, lubricants, rust inhibitors, sealers, coatings, coolants, adhesives, dyes, disinfectants, deodorants, insecticides, and fertilizers. The compact Model VS-450 weighs only 12 oz. It has a fingertip switch, corrosionproof pump, polypropylene case, and allows use of a clear-vision, frosted-glass 4-oz jar instead of metal can. Other features are a permanently lubricated motor and sealed-in shockproof head. • **Burgess Vibrocrafters, Inc.,** Commercial Products Div., Grayslake, Ill.

For more details circle NED-606 C1 on enclosed inquiry slip

TEFLON NEEDLE VALVES
for highly corrosive fluids



Breakage or contamination are eliminated by the design of this Teflon needle valve which provides delicate control of the flow of highly corrosive fluids, even under high vacuum. Highly corrosion resistant polypropylene that will withstand autoclaving temperatures is used for all plastic parts not in contact with fluid. Rubber O-rings which do not come in contact with the fluids handled assure high vacuum seal. Heavy wall Pyrex glass is used in the connecting tubes and Diamonite sintered synthetic ruby for the needle. • **Emil Greiner Co.,** 20-26 N. Moore St., New York 13, N. Y.

For more details circle NED-607 C1 on enclosed inquiry slip

CONDUCTIVITY METER
for use in water treatment

Several scales are offered on the Dip-Check conductivity meter to meet regional requirements for water treatment analysis. Scales range from 100 to 5000 ppm (sodium chloride). The hand-held instrument weighs less than 5 oz and converts direct current from two penlite batteries to alternating current, eliminating polarization at the probe. Readings are within the accuracy limits required for cooling tower systems. Housed in a break-resistant styrene case, the 9 x 2 x 1⅜-in. instrument sells for about $20. • **Comroe Laboratories, Inc.,** 5208 S. Lake Park Ave., Chicago 15, Ill.

For more details circle NED-608 C1 on enclosed inquiry slip

free sample

OIL SPUNJ

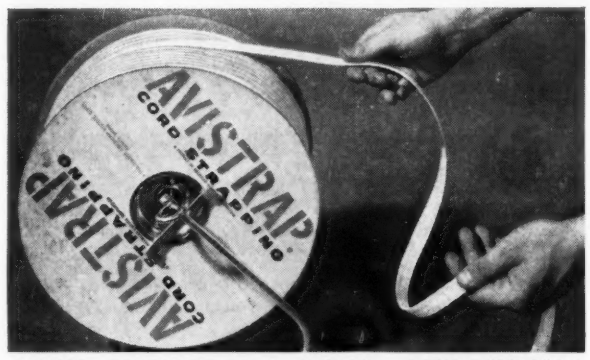
SOAKS UP
- OILS
- GREASE
- CHEMICALS

Oil Spunj, the specially processed sanitary clay, absorbs soluble oil, lubricating oil, grease, acids, chemicals on wood, metal, or concrete. Just spread on ⅛" thick, leave until saturated, and sweep off. Re-use with soluble oil. U. L. Approved. Meets automotive mfgrs. specs. For free sample, data, and prices, write Dept. D-3.

Since 1886

CANFIELD OIL CO.
Cleveland 27, Ohio • VU 3-6630

For more details circle NED-609 C1 on enclosed inquiry slip



NEW AVISTRAP® CORD STRAPPING FOR PACKAGING, PALLETIZING, BALING

Absorbs shocks that snap comparable-width metal strapping. Made of super tough Avisco® rayon, in ¼" to ¾" widths. No sharp edges, easy handling. Light weight—21-lb. coil carries yardage equal to 100 lbs. metal strapping. AVISTRAP, tools, accessories, and tool service available from local distributors throughout U.S. Latest descriptive literature sent on request. Write, on company letterhead, to arrange for in-plant demonstration.

AVISTRAP CORD STRAPPING*
*PATENTS PENDING

INDUSTRIAL PACKAGING DEPARTMENT
American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pa

For more details circle NED-610 C1 on enclosed inquiry slip

PROBLEM: move viscous liquids at 10 to 300 G.P.M.

ANSWER: VIKING PUMPS

PICTURED
Are 8 of 22 Viking heavy-duty, steel fitted pumps selected by one plant for handling viscous, synthetic materials in capacities ranging from 10 to 300 G. P. M.

Viking Pumps answer the problem of moving viscous materials at varying flow rates. Vikings answer many other pumping problems, too, for the line is complete . . . ½ to 1050 G.P.M. So, whether you need a plant full or a single pump—to handle viscous or thin liquids, lubricating or non-lubricating liquids, corrosive or non-corrosive liquids—check Viking for the answer to your problem.

Send today for Catalogs CG and MG

VIKING PUMP COMPANY

Cedar Falls, Iowa, U.S.A.
In Canada,
It's "Roto-King" Pumps

50 YEARS

See Our Catalog
In Sweet's
Plant Engineer's File

For more details circle NED-611 C1 on enclosed inquiry slip

INSULATION TESTING
Engineering • Production • Maintenance

✓ Materials
✓ Components
✓ Equipment

High Voltage Breakdown
HYPOT Test Sets with outputs from 5 kv to 150 kv and up. Test wire, cables, transformers, motors and components to ASTM and Federal specifications. Write for manual.

Mobile HYPOT for testing heavy duty electrical equipment.

Insulation Resistance
VIBROTEST Megohmmeters have direct reading ranges to FIVE MILLION Megohms. Self-contained electronic power supply eliminates cranking and leveling. Write for manual.

Insulation Materials Tester
Interchangeable test fixtures for tape, plastic sheet, film, tubing, porcelain, cloth and varnishes. Models provide 35 kv and up for test.

Model 4501 HYPOT Materials Tester. Meets D-149 etc., ASTM specifications.

Insulating Oils Tester
Dielectric strength testing of insulating liquids to ASTM specifications. Rapid, simplified operation. Automatic rate of rise control optional.

Arc Resistance Tester
Tests ability of insulating materials to resist arcing in accord with ASTM and Federal specifications. Complete with electrode assembly and specimen holder.

Model 4505 HYPOT Oil Tester provides 0-35 kv at 2 kva.

Write for Manual J-67

10-35.21 ASSOCIATED RESEARCH, Incorporated
"Electrical Testing Instruments Since 1936"
3765 W. Belmont Avenue • Chicago 18, Illinois

▲ For more details circle NED-612 C1 on enclosed inquiry slip ▲

- Large Manufactured Head
- Oversize Blind Head
- Plugged or Hollow
- No Stem Trimming
- Minimum Blind-Side Clearance
- Excellent Head Seating
- Wide Grip Range
- Full Range of Diameters
- Positive Hole Fill
- Easy Installation

For fast, secure, more economical fastening, the new Cherry Commercial Rivet is a blind fastener ideal for production manufacturing and repair. Installed by one man from one side of the work, the Cherry Commercial Rivet reduces cost of assembly, repair and maintenance in both blind and open applications.

Minimum blind side clearance, adaptability to variations in material thickness, and positive hole fill even in oversize or out-of-round holes offer advantages not available in other production fasteners.

Cherry Commercial Rivets are available in both hollow (non-structural) and plugged (structural) types. The plugged rivets have strength values comparable to solid rivets, and stems fracture to eliminate all trimming operations and provide further production economy.

Grip lengths from 1/32" to 1" inclusive, and diameters of 1/8", 5/32", 3/16" and 1/4" are provided in either universal or countersunk head. Special rivets are manufactured to order.

For full technical information on the new Cherry Commercial Rivet, write Cherry Rivet Division, Townsend Company, Box 2157-G, Santa Ana, California.

Aluminum Mild Steel Monel

Cherry Rivet Division
SANTA ANA, CALIFORNIA
Townsend Company
ESTABLISHED 1816
EXECUTIVE OFFICES—BEAVER FALLS, PA.

In Canada: Parmenter & Bulloch Manufacturing Company, Limited, Gananoque, Ontario

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POCKET-SIZE RADIO
walkie-talkie unit weighs 18 oz

Range of 1 mile under normal operating conditions is provided by the Lafayette HE-29 Citizen's Band walkie-talkie radio. Small enough to fit in a pocket, the 18-oz crystal controlled unit has a super heterodyne receiver with push-to-talk operation. Eight low-cost batteries give it a life of about 70 hr. Operable without FCC license, it has a 46-in. telescoping antenna which will transceive up to 7 miles under optimum conditions. Radio may also be used as part of any Class D radio system. Price is $49.95. • **Lafayette Radio Electronics Corp.**, Jamaica 33, N. Y.

▲ For more details circle NED-614 C1 on enclosed inquiry slip ▲

BLAST ETCHING MACHINE
marks or stencils metals, glass

Metal, glass, or plastic parts or components to be marked or stencilled are placed in a work locating fixture on top of the Model 173 sand blast machine. The small, compact, automatic machine has a blast nozzle in the cabinet in a fixed vertical position. Abrasive flow is controlled by a foot pedal. Other versions of the machine can have two, three, and four nozzles in fixed positions, the number determined by the masking job to be done. Stencil work up to 1/4 in. round or 7/8 in. square is handled by a single nozzle. Larger areas require more nozzles. • **Pressure Blast Mfg. Co.**, 27 Pleasant St., Manchester, Conn.

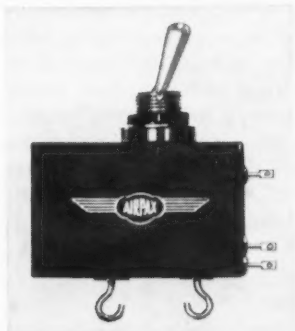
▲ For more details circle NED-615 C1 on enclosed inquiry slip ▲

VOLT-OHM-MILLIAMMETER
features burnout-proof meter

All scales of the V O Matic 360 automatic volt-ohm-milliameter are direct reading without multiplying. Only one scale is visible at a time. Mirrored scale and a knife-edge point facilitate precise readings. The meter is protected against extreme overload and burnout. Sensitivity is 20,000 ohms per 1 v dc and 5000 ohms per 1 v ac. Alternating current frequency response is 5 to 500,000 cps. Full scale accuracy is within ±3 per cent dc and ±5 per cent ac. DC volts are covered in six ranges, AC volts in six ranges, AF (output) in four ranges, DC current in five ranges, and resistance in four ranges. Other ranges are also incorporated. Battery-powered instrument measures 6 1/4 x 8 3/8 x 3 7/8 in. and costs $59.95. • **B & K Mfg. Co.**, 1801 W. Belle Plaine Ave., Chicago 13, Ill.

▲ For more details circle NED-616 C1 on enclosed inquiry slip ▲

MINIATURE BREAKERS
for use with remote indicators



Miniature Series 500-R circuit breakers can be used to actuate panel lights, alarms, or remote indicators. Switching action of single-pole double-throw auxiliary contacts, rated 1 amp, 110 v rms, provides rapid indication when the breaker trips. The magnetic, hermetically sealed units with time delays of 3 or 30 sec have a trip level of 125 per cent of rated current. Also offered are instantaneous acting type with trip level of 150 per cent of rated current. Voltage ratings are 50 v dc and 120 v rms, 60 or 400 cps. Current ratings are 50 ma to 10 amp. • **Airpax Electronics Inc.**, Cambridge Div., Jacktown Road, Cambridge, Md.

▲ For more details circle NED-617 C1 on enclosed inquiry slip ▲

FREE

Custom Stampings from COMMERCIAL'S "Die Bank"

Bulletin 200-P3 now available. Write to Commercial Shearing & Stamping Company, Dept. J-9, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

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...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

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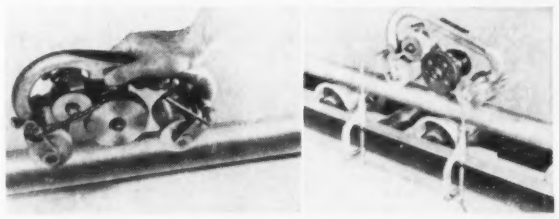
Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-890.

Territories available for qualified representatives.

ACRO METAL STAMPING COMPANY
1901 North Buffum, Milwaukee, Wis.

▲ For more details circle NED-619 C1 on enclosed inquiry slip ▲

BAR and TUBE PRINTER for hand or conveyor use



Rolled by hand along rounds or flats, or mounted over conveyor rolls, this printer provides simple, economical identification code printing. Guide rolls adjust and center printing wheel for clear marking on metal or plastic 1/4" diameter up.

Wheel accepts E-Z Set rubber type in single type characters or complete legend in one strip. Easily pressed into place, or stripped off for quick change.

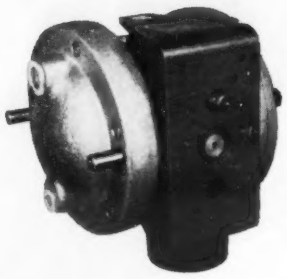
Sponge rubber ink roll holds enough ink for 8 hours; easily interchanged for color code change.

Lightweight magnesium frame, rugged construction; weight 7 1/2 lbs. Write for literature, Model T-55.

PANNIER MASTER MARKERS
323 Pannier Bldg., Pittsburgh 12, Pa.

▲ For more details circle NED-620 C1 on enclosed inquiry slip ▲

DON'T WORRY ABOUT OVERRANGING THIS METER BODY



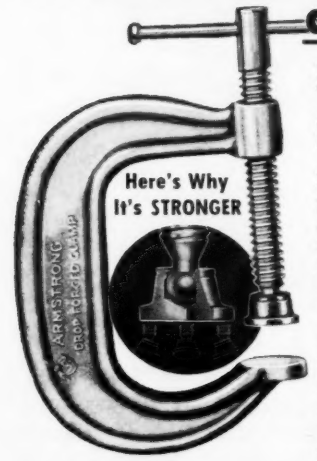
The exclusive Barton rupture-proof dual bellows meter is not affected by overranging, maintains calibration and requires minimum maintenance.

The 199 meter body is the heart of an entire line of precise instruments that includes controllers, indicators, recorders, integrators, transmitters and switches. The 199 meter body features temperature compensation for maximum stability, adjustable pulsation dampener for positive response control, top and bottom pressure taps for self-draining and easy venting. The 199 is available in a full range of differential pressures up to 50 psi and static pressure ratings up to 6,000 psi. For the ultimate in dependability, accuracy and minimum maintenance, specify Barton.

BARTON INSTRUMENT CORPORATION
580 MONTEREY PASS ROAD • MONTEREY PARK, CALIFORNIA

For more details circle NED-621 C1 on enclosed inquiry slip

New ARMSTRONG Swivel Pad can't come off



Now ARMSTRONG deep throat "C" Clamps have the new (Pat. apd. for) ARMSTRONG Ball-joint Swivel Pad. This "C" Clamp pad, developed by ARMSTRONG Engineers, is tougher than any on the market. Rigorous testing in our own plant first proved this fact, and field tests in factories throughout the country have confirmed our own test results.

The lip of the opening in the ARMSTRONG Ball-joint Swivel Pad is undercut so that when the ball of the screw is inserted, and the lip is permanently forced down, a solid steel wall is formed, inside the pad cavity, completely encircling the ball.

This wall of steel makes it impossible for the pad to come off the screw during normal use. In fact, our tests have proved that it is virtually impossible to intentionally knock the pad off with a hammer—yet the pad is free to swivel through an arc of approximately 40°.

Call your ARMSTRONG Distributor

Your ARMSTRONG Distributor can offer delivery from stock on this "400-Series" deep throat, drop-forged "C" Clamp with the new Ball-joint Swivel Pad. He also carries in stock the other styles of clamps in the ARMSTRONG Line—the broadest line of drop forged "C" Clamps.

ARMSTRONG BROS. TOOL CO., 5245 W. ARMSTRONG AVE. CHICAGO 46, ILLINOIS

For more details circle NED-622 C1 on enclosed inquiry slip

Now you can--
Seal Cans Fast
with Post Office Approved
FREUND TRIPLE-GRIP Can Clips

If you ship in friction top cans--it will pay you to seal the lids with Freund Triple-Grip Can Clips. Once applied--they stay put. And anyone can quickly and easily apply them--no skill or experience required.

SEND FOR SAMPLES

For convincing proof--you're invited to try Freund Triple-Grip Can Clips and see for yourself. Samples, simple instructions, and low quantity prices--yours for the asking. Use your letterhead or handy coupon below.

FREUND CAN COMPANY
4445 Cottage Grove Ave. • ATlantic 5-7700 • Chicago 53, Ill.

FREUND CAN COMPANY Date_____
4445 Cottage Grove Ave. 6
Chicago 53, Illinois
Without obligating us--send samples of Freund Triple-Grip Can Clips.
YOUR NAME _____ FIRM NAME _____
ADDRESS _____

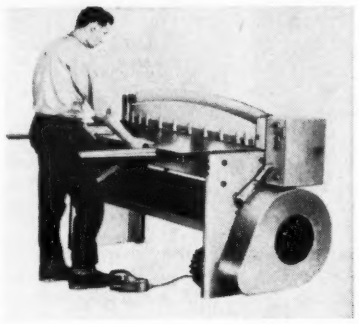
For more details circle NED-623 C1 on enclosed inquiry slip

LINE MARKING MACHINE
comprised of gravity and spray units

The Two-or-One Florline marking machine is two independent units that may be used together or separately, by one or two operators as the application dictates. The 5-gal capacity gravity-feed Florline unit rolls safety and parking lines with no mist hazard to nearby cars, equipment, or stock. It also makes lines flush to barriers and vertically up curbs or walls. Companion unit, powered by a 3-hp Briggs & Stratton engine, has a piston type compressor and spray gun for spraying curbs, posts, parking barriers, and stencils. It also serves as a portable compressor for other needs. Combined unit has a forward tube that blows the surface clean ahead of the roller. Price is $345. • **H. C. Sweet Co.**, 56861 Grand River Ave., New Hudson, Mich.

For more details circle NED-624 C1 on enclosed inquiry slip

HIGH SPEED POWER SHEAR
capable of 160 strokes per minute



Ferrous and nonferrous sheet as heavy as 16-gage can be sheared to 50-in. widths at rates up to 160 strokes per minute with the instant cycling Di-Acro power shear No. 48. Machine's speed adapts it for use on conveyor and run-out lines. Ram is inclined to counteract thrust, and shear blades are angled so that only the edges contact the material. Micrometer operated ball bearing back gage is graduated to 0.001 in. and is also calibrated on its side to show the nearest 1/16 in. Automatic material hold-down bar in front of blades also acts as a safety guard. Standard equipment includes motor, electrical equipment, a reversible protractor gage, one set of four-edged blades, and movable foot trip control. Price is $2750. • **O'Neil-Irwin Mfg. Co.**, 582 Eighth Ave., Lake City, Minn.

For more details circle NED-625 C1 on enclosed inquiry slip

TOWLINE TRUCK BUMPER
releases tow pin and applies brakes

Contact of pressure-sensitive bumper with a stop, obstruction, truck, or personnel causes it to automatically release the tow pin of the towline truck on which it is installed. Brakes are also set to stop the truck. Shown on a 2000-lb capacity truck, the bumper automatically re-engages the towline upon release. Unit is designed for accumulation on power switch-off conveyors or converging conveyors; automatic indexing or location for loading or unloading in conjunction with a palletizer, fork truck, stacker crane, or other equipment; for stopping at predetermined points for inspection, weighing, or storage; or for safety. V-tread rubber wheels have easy rolling and positive braking features. • **SI Handling Systems, Inc.**, Belview Road, Phillipsburg, N. J.

For more details circle NED-626 C1 on enclosed inquiry slip

Timing-Belt Drive Guidance

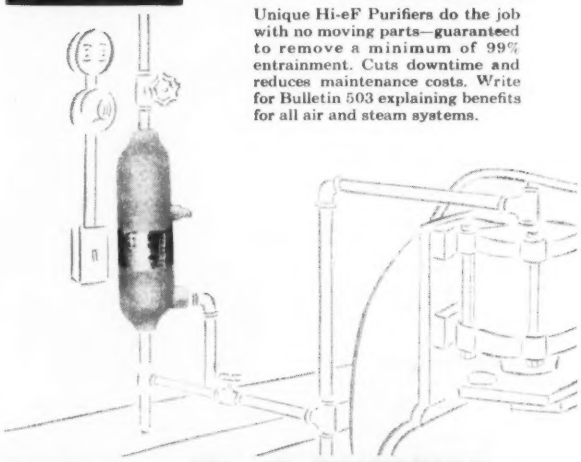
T. B. Wood's Sons Co.—Timing-belt drives for mechanical power transmission are available for load capacities from fractional to 600 hp and for belt speeds up to 16,000 fpm. Tables, charts, formulas, and other data related to the selection and application of positive timing-belt drives to specific needs are given in practical form in 72-page Catalog 19103.

For more details circle NED-627 C1 on enclosed inquiry slip

WATER
SCALE
DIRT

Easily Removed From Air Systems with Hi-eF Purifiers

Unique Hi-eF Purifiers do the job with no moving parts—guaranteed to remove a minimum of 99% entrainment. Cuts downtime and reduces maintenance costs. Write for Bulletin 503 explaining benefits for all air and steam systems.

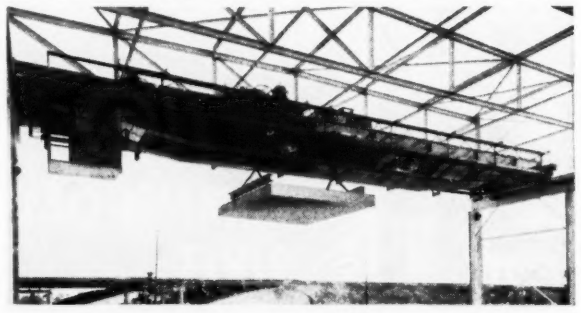


Hi-eF PURIFIER
By the Manufacturers of Super-Silvertop Steam Traps
The V. D. ANDERSON COMPANY
Division of International Basic Economy Corporation
1988 W. 96th Street • Cleveland 2, Ohio

For more details circle NED-628 C1 on enclosed inquiry slip

Custom-Engineered CONCO CRANES
fit* the job, *do* the job . . . *Better

Conco Crane Installation at Underwriters' Laboratories, Chicago



Conco Cranes are engineered to fit your job like a glove. And because custom-building is standard-practice at Conco, special crane features are practically priced. Write us for Bulletin 5000A covering the complete line of Conco cranes, hoists and trolleys.

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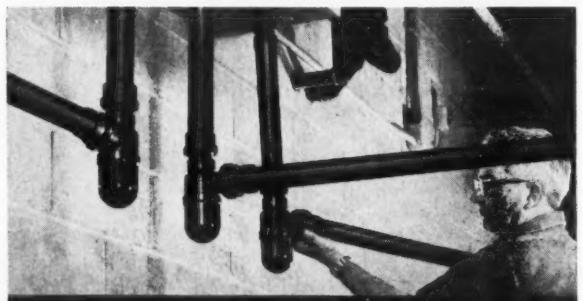
57 Grove Street, Mendota, Illinois
CRANES HOISTS CONCO
AFFILIATES
Spartan Tool Division—Powered Sewer Cleaning Equipment
Field Control Division—Barometric Draft Controls
Conco Building Products, Inc.—Brick, Tile, Stone

For more details circle NED-629 C1 on enclosed inquiry slip



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You save *every* way with Vulcathene. Installs in a fraction of the time—at half the cost—of other drainage systems. (Patented Polyfusion® method makes leak-proof joints in *seconds!*) Save on longer, trouble-free, maintenance-free life, because Vulcathene is made of virgin polyethylene throughout—can't corrode, shatter, scale, or even clog with normal chemical wastes.

Find out more about this completely integrated drainage system—pipe, fittings, sinks, traps, in all standard sizes. Write Dept. 353 for catalog.

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In Architectural, Industrial Construction and Plant Engineering Files of Sweet's

American Vulcathene
P.O. BOX 365 ROCHESTER 2, NEW YORK
DIVISION OF THE NALGE CO. INC.

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2. It gives you a flexibility never before possible

You may save yourself a lot of money by inquiring NOW from your distributor or from us about this common sense, money saving plan.

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WILCOX-CRITTENDEN

Division, North & Judd Manufacturing Co., 67 South Main St., Middletown, Conn.

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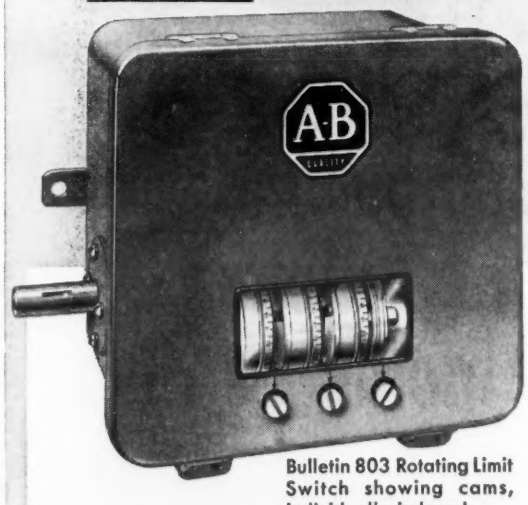
This CAM LIMIT SWITCH

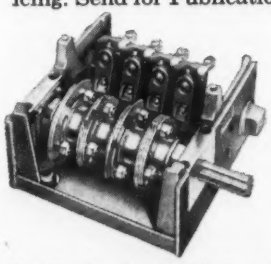
permits visual adjustment —while machine is operating



Bulletin 803 Rotating Limit Switch showing cams, individually indexed.

This line of rotating cam limit switches opens new avenues of control for automatic production machines. There are five different styles of the Bulletin 803 limit switches with from 2 to 12 separately adjustable cam operated circuits.

Built for speed ranges from 1 to 600 rpm. Individual contact units are insulated from each other with staggered terminals for easy wiring. Slow make-and-break or snap action contacts are available. And the double break, silver contacts never need servicing. Send for Publication 6084.



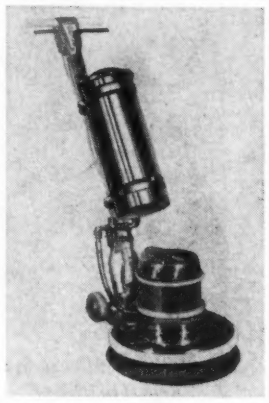
Bulletin 803 Style A general purpose, heavy duty limit switch with positive cam action contact operation.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
Quality MOTOR CONTROL

▲ For more details circle NED-632 C1 on enclosed inquiry slip ▲

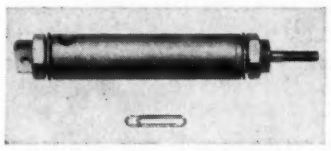
FLOOR MACHINE TANK
has 7½ in. diameter top opening



This 3½-gal solution tank for floor machines has a 7½-in. diameter top fill opening and a sealed head assembly with bayonet lock so that it can be filled with a bucket without a funnel. Tank drains easily when handle is lowered to the floor. Self-cleaning valve permits upright emptying in 7 to 8 min. Control handle is a solid rod operating through rubber guides and is positioned for metered flow by means of a knurled nut on the handle. Stainless Model 17-11 shown is for Doyle P-1, P-3, and P-5 floor machines. • **Doyle Vacuum Cleaner Co.**, 225 Stevens St. S.W., Grand Rapids 7, Mich.

▲ For more details circle NED-633 C1 on enclosed inquiry slip ▲

AIR-HYDRAULIC CYLINDER
spring return, double acting models

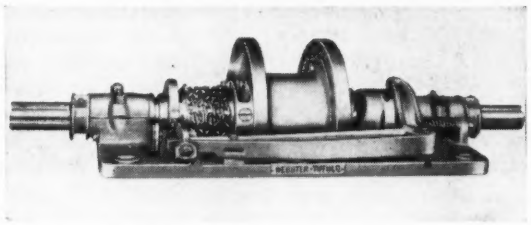


Compact, heavy duty air-hydraulic cylinder with ⅞-in. bore is suited for jigs, fixtures, and automation equipment. It is rated at 250 psi air and 2500 psi hydraulic, and is offered with a 1-in. stroke spring return and 1, 2, 3, 5, 7, and 9-in. double-acting models. Cylinder gives 60-lb force at 100 psi and 1500 lb force at 2500 psi. All parts and seals are replaceable. Cylinders stud mount front or rear, clevis mount at rear, or foot mount. Internal cushions for quiet, shock-free operation are Buna N, piston rods are chrome plated high carbon steel, shaft bushing is sintered bronze, and cylinder tubes are hard drawn brass tubing. Pistons are brass or aluminum. Ports are standard ⅛ in. NPT on the cylinder side. • **Clippard Instrument Laboratory, Inc.**, 7390-P Colerain Rd., Cincinnati 39, Ohio.

▲ For more details circle NED-634 C1 on enclosed inquiry slip ▲

AUTOMATIC POWER SHOVEL
winding drum type unloads RR cars

Grain, coal, lime, cement, and other commodities are efficiently unloaded from railway cars or long truck trailers with the improved No. 40 automatic drag-line



type power shovel. System employs a single-direction, centrally-located winding drum and single or double type shovel mechanism which is mounted on a rigid support 10 to 12 ft above car door level. Shovel travels 35 ft. A reversing system eliminates need for counterweights and assures reliability and safety. • **Webster Mfg. Inc.**, Hall Street, Tiffin, Ohio.

▲ For more details circle NED-635 C1 on enclosed inquiry slip ▲

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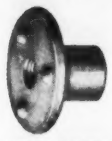
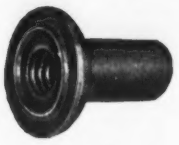
OHIO WELD NUTS

RH NUT
Thread Size #6-32 to ⅜-16



WF NUT
Thread Size #6-32 to ⅜-16

SF NUT
Thread Size ½-13



WW NUT
Thread Size #6-32 to ⅜-16

OHIO flanged weld nuts provide extra-long thread engagement and are ideal for assemblies requiring strong primary fasteners. They can also serve as spacers or bearing surfaces where required.

Samples and information furnished upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
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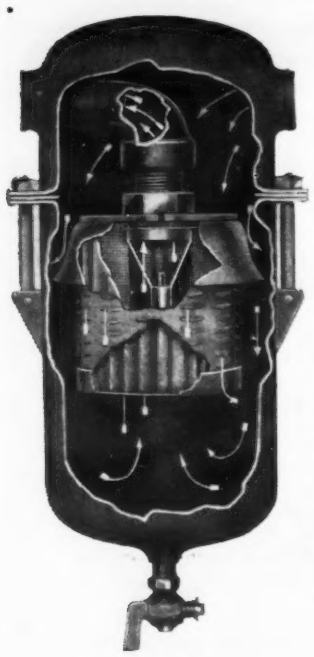

Protect air-operated equipment from impurities. Specify Dollinger Staynew Pipe Line Filters to eliminate pipe scale, dust, dirt, and condensate. Will operate in temperatures from −400°F to +1800°F. Simplified construction allows easy inspection for media cleaning or replacement. Economical, highly efficient. Consult your Dollinger representative for more details. Or, write for Bulletin 200. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

PROTECTOMOTOR STAYNEW DOLLINGER FILTERS

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HYDRAULIC CYLINDERS

- *prompt delivery*
- *competitive price*
- *wide choice of mountings*
- *compact design*

Choose the options best suited to your needs—the outside configuration can be standard or custom designed to suit your requirements when you specify Vickers hydraulic cylinders. Rod end threads, number of flats, port positions and straight thread port connections are among the external options available. Standard bore sizes range from 1½" to 6", in standard and heavy duty rod designs.

Get details in Bulletin 60-68.

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
9011 **Department 1400** • **Detroit 32, Michigan**

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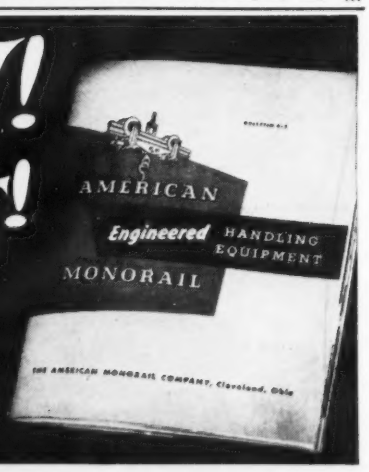
NEW! FREE!



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AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

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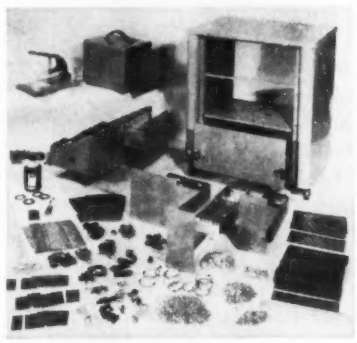
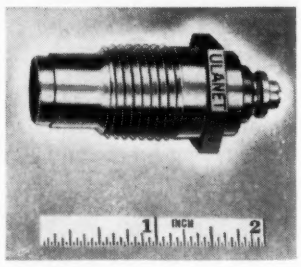
ELECTRONICS KIT
building block unit aids engineering



Engineering, production, and maintainability are facilitated with this building block type electronics kit for developing electronic test, measurement, control, or communications equipment. This No. 40 kit utilizes the Alden Plug-In system and includes a terminal card mounting system, a three-level Uni-Rack with adapters, and a universal tool for staking, eyeletting, and punching. The terminal card mounting system simplifies planning and layout and speeds production of logical circuit planes. Associated circuit planes can be grouped by function as snap-in circuits. Price is $395. • **Alden Products Co.**, 78 N. Main St., Brockton, Mass.

▲ For more details circle NED-643 C1 on enclosed inquiry slip ▲

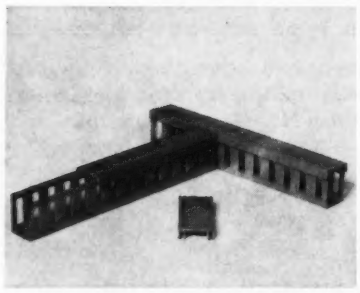
IMMERSION THERMOSTAT
used with alarms, lights, relays



Liquid-cooled engines and oil-cooled transformers are typical applications for the Model 265 miniature immersion alarm thermostat. Compact unit does not impede the flow of circulating liquids, and can be used with alarm devices, pilot lights, solenoids, and relays. Its normally-open contacts close with a rise in temperature. The ½-in. threaded body serves as a grounding terminal. It is factory preset for any operating temperatures up to 300° F. • **George Ulanet Co.**, 413 Market St., Newark 5, N. J.

▲ For more details circle NED-644 C1 on enclosed inquiry slip ▲

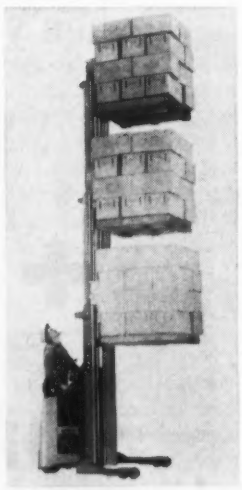
PANEL WIREWAY SYSTEM
cover is easily snapped on or off



Tee, ell, and straight wiring channels for electric panels, telephone boards, alarm systems, relay boards, and computers are made with this 1-in. high panel wireway system. Cover is snapped on wireway with a ball and socket joint on each side. Components are made of a nonflammable, high impact, rigid vinyl plastic that will not absorb moisture or warp. It is easily cut with hand or power saw, shear, or wire cutter. Product has high dielectric strength, is dimensionally stable, and withstands 150 to 165° F temperatures. Meeting JIC requirements, the gray-colored wireway has deep slots in the sides to simplify the threading of wire to their terminals. • **E C P Corp.**, 4726 Superior Ave., Cleveland 3, Ohio.

▲ For more details circle NED-645 C1 on enclosed inquiry slip ▲

THREE-STAGE MAST
increases truck lift to 180 in.



Range of elevation in line of narrow aisle electric fork lift trucks is increased 25 per cent with this three-stage mast in 2000, 3000, and 4000-lb capacities. Mast is offered in both straddle and reach fork models. Reach fork models with collapsed heights of 72 and 83 in. have lifts increased to 147 and 180 in. respectively with the mast. Ample visibility is achieved by nesting the uprights, clustering the lifting cylinders, and avoiding the need for additional oil lines and lift chains. Mast profile is low enough for entering highway trailers and low doorways. • **Raymond Corp.**, 41-186 Madison St., Greene, N. Y.

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3 'PEAK POWER' Ultrasonic Cleaners

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*With 1 pint of Hydro-Sonic Cleaning Solution Concentrate

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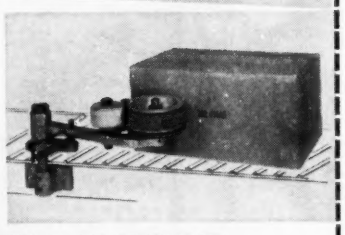

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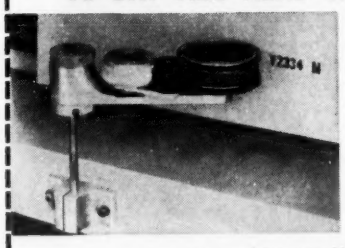

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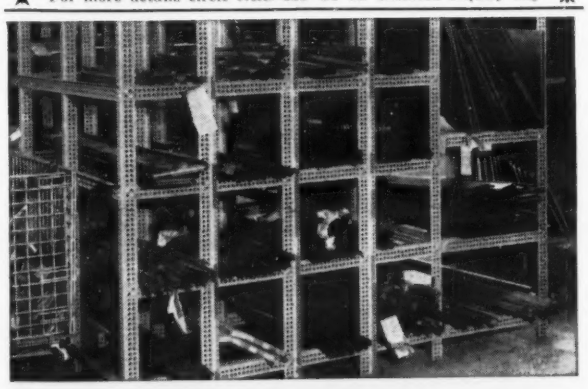

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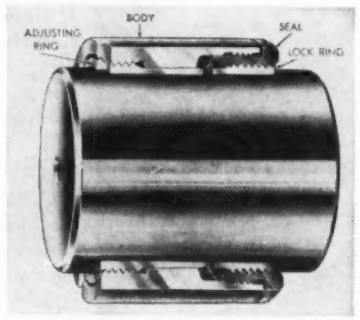
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-651 C1 on enclosed inquiry slip

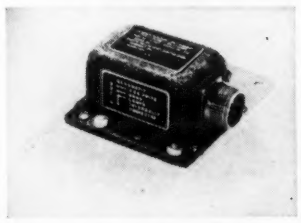
METAL HYDRAULIC SEALS handle high heat and pressure



Self - compensating for reasonable misalignment and side loads, this all-metal seal is used for dynamic hydraulic applications. It does not require close tolerances and has a very low break-out force. Made of alloy steels, it is suited for temperatures to 530° F and pressures to 6000 psi. Seals have been tested with reciprocating and rotary motions, and are available for static applications. • **B. F. Goodrich Co.**, Aviation Products Div., 500 S. Main St., Akron, Ohio.

For more details circle NED-652 C1 on enclosed inquiry slip

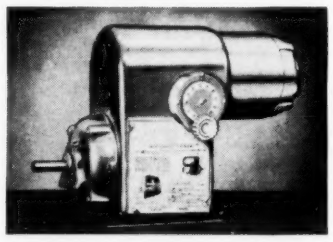
FLASHING DEVICE miniature unit switches 150 w



Transistorized and potted A - 300 - P miniaturized static-position light flasher is a lightweight, maintenance-free unit for incandescent lamps. Capable of switching 150 w, it has long service life under severe environmental conditions. It is explosion and moistureproof; resistant to contact with gasoline, hydraulic fluid, and jet engine fuel; and is automatically fail-safe in operation. With basic circuitry, it can be used with a warning signal or as a timing circuit with variable on-off ratio or time. • **Joseph Pollak Corp.**, 81 Freeport St., Boston 22, Mass.

For more details circle NED-653 C1 on enclosed inquiry slip

VARIABLE SPEED DRIVE is motorized ¼ to 1-hp unit



Speed ratios up to 10:1 in a 4 to 10,000 rpm output range are obtainable with Type 5 VA Varidrive variable speed drive. Unit is available in ¼, ⅓, ½, ¾, and 1hp ratings for single and three phase, 60-cycle power. Precise speeds are obtained with easy-turning fluted knob, and speed drift is prevented by a positive anti-creep device. This packaged drive is light in weight and compact. It features Lubriflush grease lubrication, automatic belt tension, ease of servicing, and mountability in any position. • **U. S. Electrical Motors Inc.**, Box 2058, Terminal Annex, Los Angeles 54, Calif.

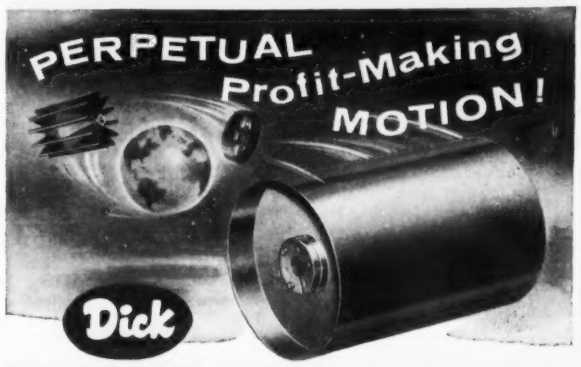
For more details circle NED-654 C1 on enclosed inquiry slip

REPUBLIC "KNOW-HOW" SOLVES YOUR FABRICATION PROBLEMS

Contract manufacturing is a full-time operation at Republic's Berger Division. Engineers work with you in developing your product, in solving manufacturing, assembly, delivery problems. Well-rounded stock of tools, dies, complete machine shop. Modern production lines for shearing, punching, forming, painting. Call, or write today.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-655 C1 on enclosed inquiry slip



BARRY "QD" CONVEYOR PULLEYS

All industry is writing the case history of Dick's Barry Conveyor Pulleys. They are in use practically everywhere . . . in production line conveyor systems, package, portable and general conveyor systems . . . standing up under the heaviest work, ore conveying, coal, rock and gravel conveying: wear-reducing, light-weight pulleys of great strength and durability that operate year after year with trouble-free efficiency . . . the nearest thing to perpetual profit-making motion you could buy.

Crowned-face and straight-face also, winged type. Off-the-shelf delivery in sizes and with special characteristics to meet virtually all requirements. Write for illustrated catalog. Dept. 11C

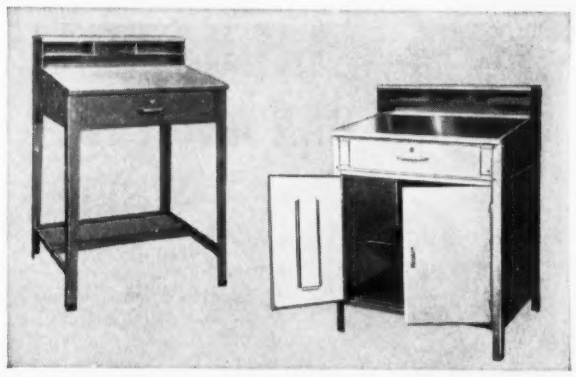
DICK "QD" HUB for easy attachment and removal, reduced inventories, a firm, wobble-free grip on the shaft every time.

R. & J. Dick COMPANY, INC.

TOTOWA • NEW JERSEY • CLifford 6-6400

Chicago • Dallas • Los Angeles • San Francisco • Seattle

For more details circle NED-656 C1 on enclosed inquiry slip



Republic SHOP DESKS

. . . strong, sturdy, convenient

Republic Shop Desks offer sit-down conveniences with stand-up comfort. Plenty of drawer and cabinet storage space with flat key type locks. Large desk top work area. Built-to-take it—made of steel. Republic's Berger Division is *the* leading manufacturer of work benches, tool racks, shelving, and other speciality shop equipment. Talk over your shop furniture problems with your Republic-Berger representative.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-657 C1 on enclosed inquiry slip

NEW

COMPRESSION SHELF CLIP

REPUBLIC CLIP SHELVING

Republic Clip Shelving allows you to use every square inch of your valuable floor space. You can save time and money, too.

Here is a complete shelving line, including shelves, parts, accessories and related shop items. Every piece is Bonderized.

Republic Clip Shelving erects fast and easy. No tools are required. It can be rearranged to satisfy shelving needs as they arise. It is completely salvageable. The new Shelf Clip requires no stud or other special fasteners. The shelf snaps firmly into place.

Let your Republic representative storage engineer your shelving problem for you. Call him anytime.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-658 C1 on enclosed inquiry slip

TAPER-SLOT
from loop to loop, opening between wires increases to eliminate blinding of near opening size materials

WEDGE-WIRE
Kleenslot
PREPARATION SCREENS DESIGNED for VIBRATING or STATIONARY INSTALLATION
for dewatering, screening, washing, extracting, filtering or sizing applications

T-WEDGE
new concept in guard bar design—small screen efficiency—long guard bar life.

SCREEN GUARDS
screening surface protected from unnecessary abrasion

G187 and GB187 MIGH-TEE
special profile adds wearing surface for extended heavy-duty applications

F217 and F250
large size wire for extended life in abrasive applications

"S"
primarily designed to screen out flats and slivers

MARCEL
designed to screen out objectionable "slivers"

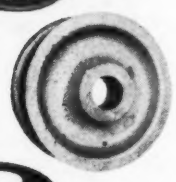
Wedge-Wire Kleenslot screens are custom manufactured for your application in almost any size, metal or finish and in special shapes not illustrated above.

send for free catalog

WEDGE-WIRE CORPORATION *Wellington, Ohio*

▲ For more details circle NED-664 C1 on enclosed inquiry slip ▲

INDUSTRIAL CAR AND TRUCK WHEELS



High-strength gray iron wheels are available in a wide range of sizes and styles, including single and double flanged, flat face, and rubber, plastic or composition tired. Equipped with Chase flexible bearings or Timken, ball, bronze or other bearings of your choice. Wheels supplied rough or machined. Hub diameter and length to your requirements.

AXLES, BEARINGS AND ATTACHING BRACKETS AVAILABLE FOR ALL STYLES OF WHEELS.

Send your specifications for a prompt price quotation, or write for bulletin.

Chase FOUNDRY & MANUFACTURING CO.
2950 Parsons Ave. • Columbus 7, Ohio

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... Fluid Power news

JUST OFF THE PRESS! *FREE!*
OILGEAR *Fluid Power* NEWS 14

Four factual, concise engineering reports — complete with diagrams—covering Oilgear Application-Engineering at work in the Primary Metals Industry. Get your copy explaining these unusual, heavy-duty applications. Previous issues are still available with reports on the following industries:

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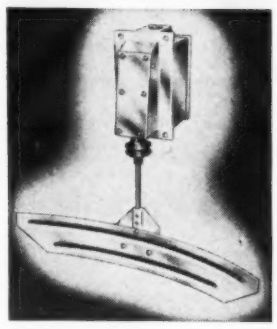
Check and return with your request for News 14.

THE OILGEAR COMPANY
Application-Engineered Fluid Power Systems
1582 WEST PIERCE STREET • MILWAUKEE 4, WISCONSIN

▲ For more details circle NED-666 C1 on enclosed inquiry slip ▲

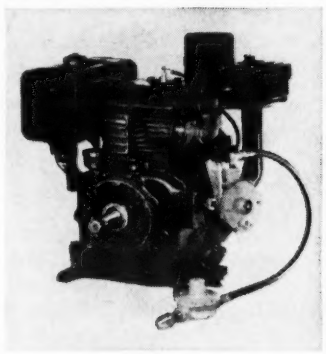
BIN LEVEL & CONVEYOR CONTROL mounts vertically or horizontally



Universal mounting of the Bin-Dx control enables it to serve as a bin level control when vertically mounted (as shown) through a 2 x 5-in. side opening, or as a conveyor control when mounted horizontally near point of discharge. As a conveyor control, it is positioned directly over moving materials so that deflector plate or disc becomes sensitive to pressure and prevents overflowing and pile-up of materials. The 10-amp, 220-v contacts provide for either open or closed circuit. Unit is available in any voltage up to 440 v. • **Ralph C. Gardner & Co.**, 14112 Lima Rd., Ft. Wayne 13, Ind.

▲ For more details circle NED-667 C1 on enclosed inquiry slip ▲

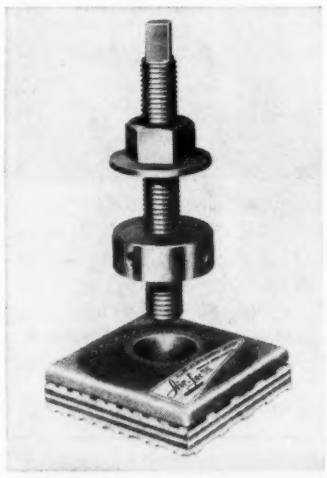
ENGINE CONVERSION KIT for changing to LP or natural gas



About 15 min is the usual time for installing an LP-gas or natural gas conversion kit on any Briggs & Stratton engine. Each kit is offered with both primary and secondary regulators, the latter a UL - approved unit which is mounted directly on the carburetor. Fuel tubes are cut to the exact length, and on the smaller engines no drilling is required. • **Garretson Equipment Co.**, Box 111, Mt. Pleasant, Iowa.

▲ For more details circle NED-668 C1 on enclosed inquiry slip ▲

MACHINERY MOUNT dampens 85 per cent of vibration



A sturdy cast steel base plate bonded to a heavy Air - Loc pad, plus a leveling screw assembly, comprises the Jacmount machinery mount. Unit will effectively dampen and isolate vibration by as much as 85 per cent. The Air - Loc pad, which combines the durability of vinyl, the strength of sisal, and resiliency of cork, is only 1 in. high for maximum rigidity and low load center. Base plate is recessed with a 1¼ in. diameter cone-shaped depression to accommodate the screw. Mounts are also available without the leveling screw assembly for mounting machines which already have jack screws. • **Clark, Cutler, McDermott Co.**, 8 W. Central St., Franklin, Mass.

▲ For more details circle NED-669 C1 on enclosed inquiry slip ▲

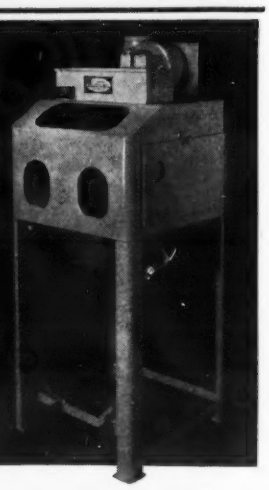
PLASTIC IMPREGNATED GLOVES are reversible to extend life

Cromac reversible plastic-impregnated gloves have a wing thumb which permits wearing on either hand to extend service life up to four times. Gloves are made from a custom fabric impregnated with polyvinyl chloride and have high finger dexterity, are snag resistant, and provide a firm gripping surface. Inside of glove has no seams to abrade or blister the skin. Gloves can be used to handle metals, plastics, glass, brick, and stone where sharp edges or snagging are encountered. They are made in men's large size in either knit wrist or band top styles. • **Jomac Inc.**, 6128 N. Woodstock St., Philadelphia 38, Pa.

▲ For more details circle NED-670 C1 on enclosed inquiry slip ▲

new!

ECONOMY SIZE
Liquamatte®
WET BLASTING CABINET
BY *LORD*®



This new economy model wet blasting cabinet gives you all the proven precision finishing power of the famous Liquamatte, at less than half the cost of the next larger size. Stands less than 5' high, occupies only 4 sq. ft. of floor space. Convenient to operate, foot controls, air-agitated abrasive slurry, new baffle type filter never needs changing. Ideal for tool maintenance, touch-up finishing, volume production of small parts. Send for complete details.

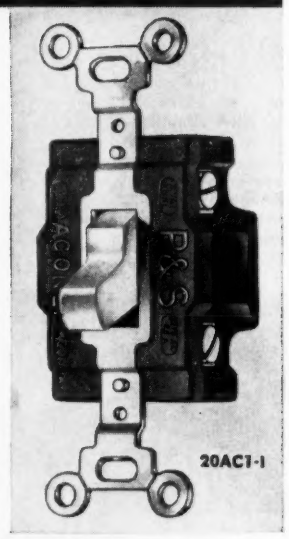
LORD CHEMICAL & EQUIPMENT DIV.
of Wheelabrator Corp.
2068-G South Queen St. York, Pa.

▲ For more details circle NED-671 C1 on enclosed inquiry slip ▲

SPECIFIED FOR RUGGED DUTY

P&S

SUPER AC SWITCHES



- Extra large terminal screws.
- Extra large silver buttons.
- Can be used to *full rated capacity* on inductive loads.
- Contacts in upright position mounted at point of least vibration.
- Available in 15 and 20 Amp. types.

Send for complete catalog, Dept. NED-361

PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK

60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill. In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

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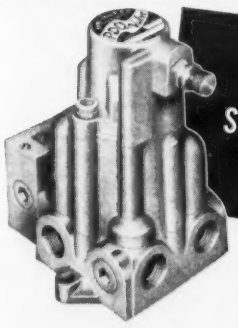


PDQ® Solenoid-operated 4-way VALVE

Fast . . . Compact . . . Accessible

For speed—lightning-fast single spindle poppet action . . . for compactness—unique center-line design . . . for accessibility—bayonet-lock construction—solenoid pilot and valve can be removed and replaced in 30 seconds!

Sizes ⅜ through 1¼ in. NPT . . . for vacuum through 125 psi air . . . front, side and bottom tapped . . . full JIC . . . 35 million cycles . . . only 2 assemblies to service and stock. Before you buy any valve, be sure you see the PDQ!

3004

Write for Bulletin No. 602. Address Dept. NED-361 Hunt Valve Company, Salem, Ohio.

HUNT
QUICK-AS-WINK® AIR AND HYDRAULIC
VALVES
HUNT VALVE COMPANY • DIVISION OF IBEC • SALEM, OHIO

▲ For more details circle NED-673 C1 on enclosed inquiry slip ▲

METARAYS DON'T BUST!

Maybe there's a better word . . . but none says it better. If you're using glass infrared lamps, and have a high breakage rate, here's the answer. Chromalox Metarays have unbreakable, metal-sheathed elements. Maintenance is all but eliminated. Dust, dirt, and paint dropped from parts in process are burned off by the element. Rated 120 volts, 375 to 1200 watts, Metarays create no glare . . . can be operated by automatic or manual controls.

Next time you break a glass infrared lamp, replace it with a Metaray . . . it won't bust. Write today for literature and prices.

91688

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle NED-674 C1 on enclosed inquiry slip

SUPERIOR CONSTRUCTION

Hackney seamless containers are deep drawn to shape from a single piece of high-quality metal. No foreign matter can lodge in the smooth, crevice-free interiors that are easy to clean. No rivets and no welding seams are used, offering greater resistance to rust and leakage. Bottom reinforced with wearing ring for greater durability. Wide range of sizes in black, galvanized, tinned or stainless steel, or aluminum. Write for catalog.

Hackney MILWAUKEE
Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 South 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

For more details circle NED-675 C1 on enclosed inquiry slip

1001 Clamping Jobs

WITH THE PUNCH-LOK K-45
CLAMP-MASTER KIT

Contains preformed, open-end clamps and P-38 locking tool.

A Low Cost Economical Kit—
For Fast, Smooth, Clamping of Hose, Insulation, Cable, Rope, Split Beams, etc.

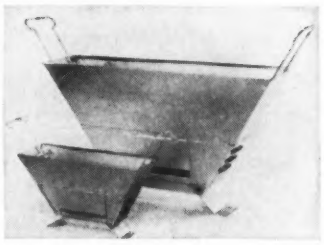
LOOK! *It's "Loked" for Safety*

See your nearby Punch-Lok distributor or write direct.

PUNCH-LOK *Company*
9275
The Sign of a GOOD Hose Clamp
Dept. A, 321 N. Justine St., Chicago 7, Ill.

For more details circle NED-676 C1 on enclosed inquiry slip

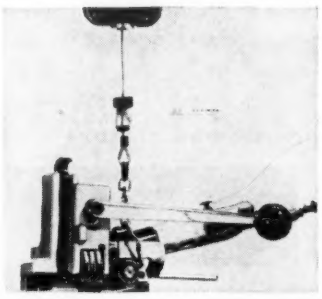
GUIDE LINE LIGHT
casts clear, sharp shadow lines



Cutting, marking, or assembly operations in small areas or low-ceiling plants are facilitated with the small Q-5 Guide Line light which casts clear, sharp shadow lines on workpiece or any surface. It uses an intense 500-w light which has a 2000-hr life to project any desired number of parallel straight lines in a pattern 8 to 16 in. wide and 4 to 8 feet long. • **Carter Products Co.**, Helmer Bldg., Grand Rapids 2, Mich.

For more details circle NED-677 C1 on enclosed inquiry slip

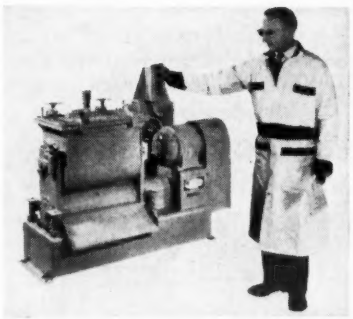
STRAP STRETCHER-SEALER
tensions, seals in less than 1 sec



Once straps are in position in the Model 2309 stretcher - sealer, tensioning and sealing on normal size boxes takes less than 1 sec. Air - driven tension take-up is so fast, that sealing can be started as tensioning begins. As sealing operation is complete, the next seal automatically feeds into position from a 50-seal magazine. Tool weighs 13 lb and is usually suspended from a balance for operation in either horizontal or vertical positions. It operates on 60 to 90-psi air pressure and features a muffler to reduce noise. • **A. J. Gerrard & Co.**, 400 E. Touhy Ave., Des Plaines, Ill.

For more details circle NED-678 C1 on enclosed inquiry slip

VIBRATORY FINISHER
has 1 cu ft capacity



Rapid and thorough rinsing of contents of the 1 cu ft Vibrator finishing machine is possible because it can be tilted while still vibrating. Its rinse cover incorporates a manifold system for spraying the water throughout the work. Separation of fine or fractured chips from the rest of the media and separation of parts from media are also possible. The Model 1016 Vibrator is 10 in. wide, 16 in. long, and 13 in. deep, and has a ½-in. thick rubber lining. Machine's variable amplitude shaft is adjustable from 0 to ¼ in. and its frequency is variable from 700 to 2100 cpm. Drive is by a 2-hp, 1800-rpm, 220/440 or 550-v motor. Bowl is tilted and righted manually for rinsing and unloading. • **Wheelabrator Corp.**, Lord Chemical & Equipment Div., 2068 S. Queen St., York, Pa.

For more details circle NED-679 C1 on enclosed inquiry slip

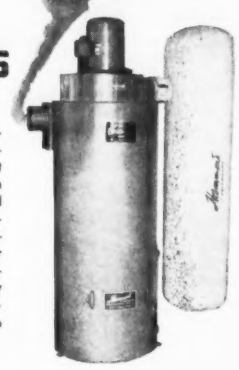
PAINT SPRAY BOOTH
has disposable cloth curtain

Paint overspray is collected on a disposable cloth curtain which is mounted in the Dispo automatic dry spray booth where filters are normally installed. Booth exhausts about 300 cfm of air per sq ft of cloth area at a maximum of 3 in. resistance pressure. As resistance pressure builds up when exposed area is saturated with paint particles, a pressure differential switch operates a motor drive to advance a new section of clean cloth. When used up, the cloth is discarded and a new 150-yd roll is installed. Booth is built to NFPA Code 33 specifications. Conventional spray booths are easily converted to Dispo operation. • **Binks Mfg. Co.**, 3114 Carroll Ave., Chicago 12, Ill.

For more details circle NED-680 C1 on enclosed inquiry slip

Dust

TRAP THIS DANGEROUS ENEMY with
Hammond
DUSKOLECTORS



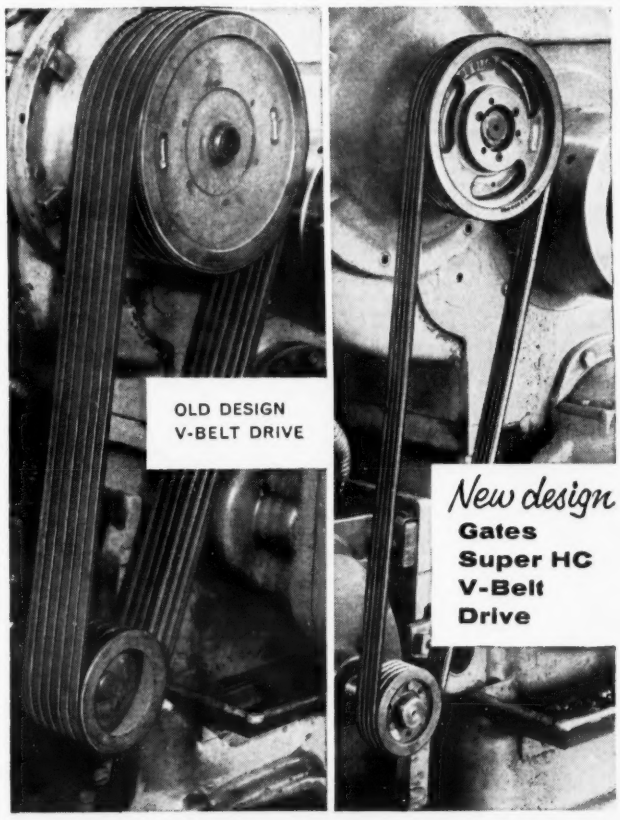
Dust is a serious problem in most industrial plants. With Hammond DUSKOLECTORS you trap this dangerous enemy at its source before it can harm the health and efficiency of your employees and damage valuable machinery. Your cleaning and painting costs will also be reduced. Hammond DUSKOLECTORS offer you the best and most economical solution to your dust problems. Write today for catalog with helpful engineering information and interesting installation views.

"A MUST FOR DUST!"

See us at the ATME Show, May 22-26, New York Coliseum.

Hammond Machinery Builders INC.
1623 DOUGLAS AVE. • KALAMAZOO, MICHIGAN

For more details circle NED-681 C1 on enclosed inquiry slip



Gates High Capacity Drive saves up to 50% in drive space

If the belts and sheaves of a conventional V-belt drive must be replaced, or if you are designing a new drive, you can save space, weight and money by installing a Gates Super HC High Capacity V-Belt Drive. Because of exclusive design features, this new Gates drive can often cut in half the space formerly required for a V-belt drive. Drive costs are cut as much as 20%, and drive weight reduced 20% and more. Guards can be smaller. Bearing loads are less, increasing bearing life. And the drive can operate at speeds up to 6000 ft/min without dynamic balancing!

Your local Gates Representative is an experienced, fully-qualified drive design expert. Contact him for drive design help.

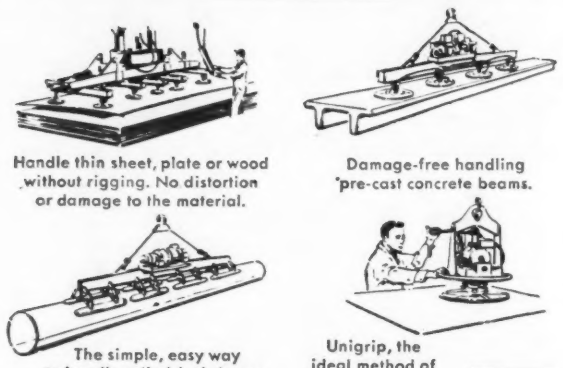
The Gates Rubber Company
Denver, Colorado
Building the future on 50 years of progress
GP 20

Gates

Gates Super HC V-Belt Drives

For more details circle NED-682 C1 on enclosed inquiry slip

AIR-HANDLE
YOUR MATERIAL WITH
PRESSUREGRIP



Get the facts on Whiting Pressuregrip. Write for Bulletin V-100R.

Whiting Corporation, 15660 Lathrop Ave., Harvey, Ill.

WHITING

For more details circle NED-683 C1 on enclosed inquiry slip

SHOP EQUIPMENT AND STEEL SHELVING

Modular Benches • Steel Shelving • Work Benches • Stock Carts • Handicabinet® Benches • Service Trucks • Stacking Boxes • Parts Bins • Small Parts Cabinets and Cases.

Bay

When you need steel equipment priced right—produced right—and delivered right on time—specify BAY, for integrated service. In long use, all products have proven to be designed properly, produced properly . . . BAY products, unconditionally guaranteed, normally are in stock (including all the new lines) ready for immediate shipment. For top quality products, quick delivery, specify BAY.

For more details circle NED-684 C1 on enclosed inquiry slip

Allis-Chalmers lift trucks ...mechanical hands for your favorite brands

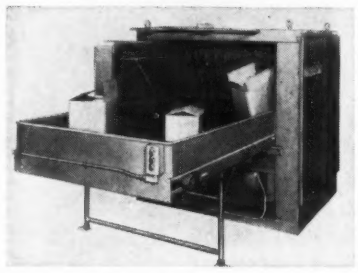
Many of the most famous brand name products of American industry are helped on their way to market on the forks, clamps, hooks and scoops of Allis-Chalmers multipurpose lift trucks. They provide vital help in cutting critical handling costs . . . move material fast, lift it high, stack it carefully. And they're only part of the wide range of Allis-Chalmers material handling equipment...including tractors, loaders, blowers and pumps. Allis-Chalmers, Milwaukee 1, Wisconsin. BH-156

ALLIS-CHALMERS

POWER FOR A GROWING WORLD

For more details circle NED-685 C1 on enclosed inquiry slip

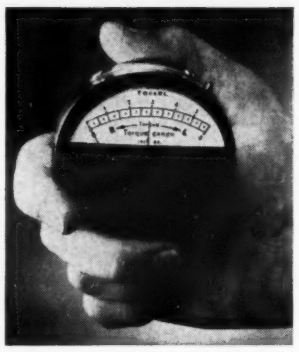
CARTON SHREDDER
operates at low noise level



Slow ripper wheel speeds and tearing rather than beating action contribute to the quiet operation of the Bloapco cardboard carton shredder. Light wood slats, staples, small pieces of metal, glass, and other material will not harm the malleable iron ripper wheels. Nominal capacity is over 6000 lb of cartons per hour. Shredded cartons can be removed mechanically or pneumatically. Power from a 25-hp motor is transmitted at high torque to the ripper shafts through a fluid coupled speed reducer and heavy duty roller chain drive. Either a manual safety bar or instantaneous trip overload relay will stop the motor. • **Blower Application Co.**, 3361 N. 35th St., Milwaukee 16, Wis.

For more details circle NED-686 C1 on enclosed inquiry slip

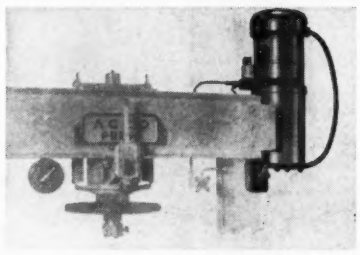
TORQUE GAGES
for small instruments and motors



Clockwise and counterclockwise torque is registered in the same direction on the same scale of TGRL Series precision torque gages. Developed for measuring the starting, stalling, and friction torques on small instruments and miniature motors, they are individually calibrated for each application. The mechanical, nonmagnetic units are accurate within ±1 per cent. A 2¾ x 1½-in., 5-oz model and a 5 x 2-in., 7½-oz model are available with eight standard ranges from 0-2 oz-in. with ⅛ oz-in. increments to 144-216 oz-in. with ½ or 1 oz-in. increments. • **Torque Controls, Inc.**, 829 E. Broadway, San Gabriel, Calif.

For more details circle NED-687 C1 on enclosed inquiry slip

PRESS CONVERSION UNIT
electric drive gives quick response



Manual or air driven ACCO or Manley hydraulic presses or other hydraulic presses with an external high pressure line are converted to electrical operation by use of this low cost electric drive unit. It provides ease of control and quick response. Operating from a 110-v ac power supply, the unit has stepless speed control and approach speeds comparable to those of an air drive. Designed with a short duty cycle for the user who occasionally reaches capacity loads, the conversion unit includes all needed components: ½-hp motor, pump, switch, reservoir, control valve, factory-set by-pass, mounting bracket, tubing, and installation instructions. • **American Chain & Cable Co.**, ACCO Equipment Div., York, Pa.

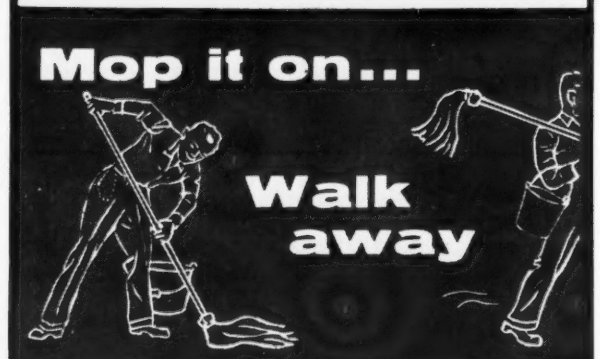
For more details circle NED-688 C1 on enclosed inquiry slip

MOBILE ROD CUTTER
develops 5 tons of thrust

Powered by a 110-v ¾-hp motor, Model MC-205-K high-speed mobile cutter develops 5 tons of hydraulic thrust to cut through 7/16-in. mild steel in 3 sec. Lightweight cast aluminum cutting head weighs a little over 6 lb and has easily replaced cutting blades. Entire unit weighs 65 lb and can be used to cut metal samples in wire and rod mills, trim rod and wire, and cut reinforcing mesh used in construction. • **Manco Mfg. Co.**, Washington Street, Bradley, Ill.

For more details circle NED-689 C1 on enclosed inquiry slip

All-purpose liquid detergent



Cindet

Let Cindet suds lift the dirt for you

CINDET does more cleaning with less effort and less material; works in hard or soft water.

CINDET outstrips them all as a wax stripper. Cleans walls, woodwork, tile, porcelain, glass, metal.

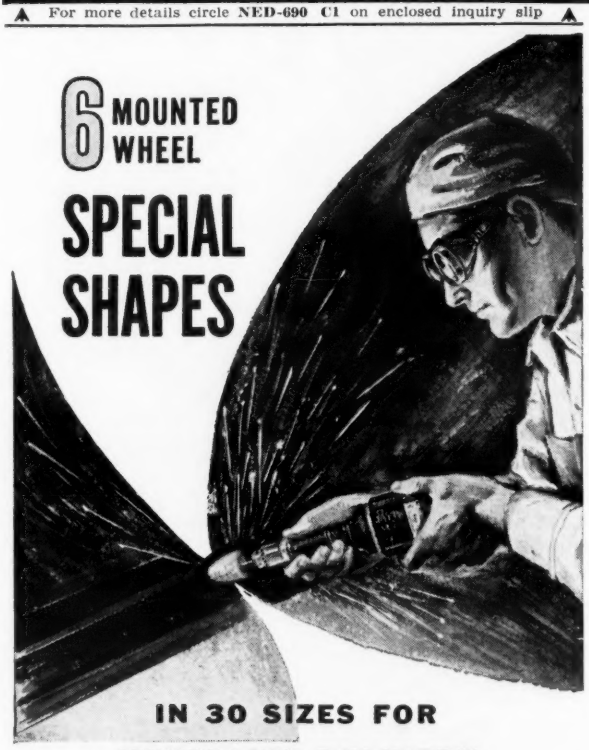
CINDET does a cleaner job—cuts labor costs: Mop it on, walk away, come back and pick it up.

CINDET does the job with no drag because dirt particles shatter, lift and ride high.

For free sanitary survey of your premises ask your Dolge service man

Dependable DOLGE WESTPORT, CONNECTICUT

For more details circle NED-690 C1 on enclosed inquiry slip



IN 30 SIZES FOR IMMEDIATE DELIVERY FROM STOCK!

These are the new "SS" (Special Shape) Mounted Wheels now available through your Chicago Wheel supplier. You select from 6 Special Shapes instead of 200. You choose from 30 sizes in 3 specifications (see below). Best of all, you get *immediate delivery* of the finest quality mounted wheels. Research and industry practice have shown that the new "SS" Series Mounted Wheels cover 96% of all portable off-hand grinding needs. Ask your supplier for "SS" Chicago Wheels.

SPECIFICATIONS OF NEW "SS" MOUNTED WHEELS FOR IMMEDIATE DELIVERY

A	General purpose grinding	All sizes
B	Die grinding, high rockwells; hardened tool steels, die steels	All sizes
C	Castings, iron and steel	Selected sizes

Write for your free copy of Bulletin SS-101 which fully illustrates and prices the new SS Series of CHICAGO Mounted Wheels.

CHICAGO WHEEL & MFG. CO.
1101 WEST MONROE STREET
Dept. ED-3 • Chicago 7, Illinois • CAnal 6-8155

DISTRICT OFFICES
Chicago, Illinois • Milwaukee, Wisconsin • Kansas City, Kansas
Detroit, Michigan • St. Louis, Missouri • Hollywood, California
Cleveland, Ohio • New York City • Northampton, Massachusetts

For more details circle NED-691 C1 on enclosed inquiry slip

PUMPS THAT "GROW"

Versatile Centrifugal

The DEMING Co.

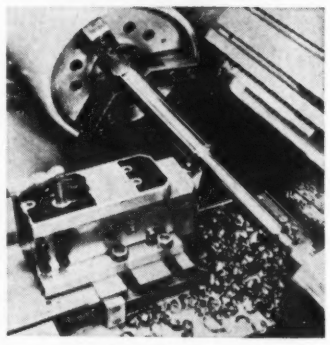
306 BROADWAY • SALEM, OHIO

For more details circle NED-692 C1 on enclosed inquiry slip

For more details circle NED-693 C1 on enclosed inquiry slip

CHIPBREAKER & TOOL BOOSTER

oscillating action fragmentizes chips, reduces tool heat and wear



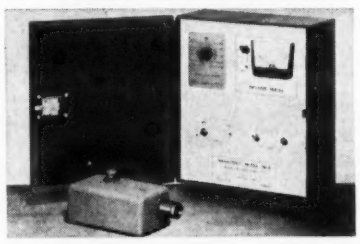
High frequency side oscillation of this Chipbreaker and Tool Booster produces a cleaving action which fragmentizes chips and minimizes heat and wear of the tool bit. Device holds multiple or single point tools on lathes, automatics, planers, and shapers and is particularly effective for grooving, form, or plunge cuts. The hydraulically-powered side motion into and away from cut is adjustable by a dial from 25 to 200 cps.

As this motion shears off chips, it tends to wipe off continuous feed marks on the back stroke, improving finish. Less tool pressure is required for a given cut, reducing deflection in the work. Tool cuts its own side clearance and eliminates binding, chatter, and burning. Chipbreaker is usable with various coolants, all kinds of tool bits, and any type of throw-away insert, slug, or brazed-on bit holders. It can handle downward or upward cutting forces. • **Cleveland Hobbing & Machine Co.**, 1311 Chardon Rd., Cleveland 17, Ohio.

For more details circle NED-695 C1 on enclosed inquiry slip

RADIATION THERMOMETER

measures temperature of remote objects without physical contact



Accurate temperature measurements in a range from 210 to 3300° F are made of remote objects without physical contact by Model TD-6 Thermodot radiation thermometer. Consisting of an optical head, indicating control panel, and interconnecting cable, the infrared system can be used in measurement and control of temperature in industrial heating; inspection and quality control in metal fabricating; process control; and nondestructive testing of rubber products, ceramics, and plastic sheet.

System is compensated for ambients from 50 to 120° F and responds in 0.3 sec. Optical head is an infrared transmitting lens that focuses radiation onto a sensitive infrared detector which generates a signal voltage proportional to radiation intensity. Since operation is remote, thermometer can be used for rapidly moving and inaccessible surfaces. Optical lens has 20 in. to infinity focusing range. • **Radiation Electronics Co.**, 5600 Jarvis Ave., Chicago 48, Ill.

For more details circle NED-696 C1 on enclosed inquiry slip

SOUTHWEST "Monoball" SELF-ALIGNING BEARINGS

CHARACTERISTICS

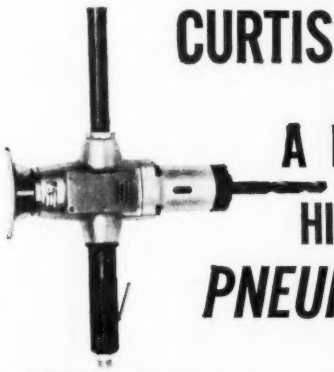
	ANALYSIS	RECOMMENDED USE
1	Stainless Steel Ball and Race	For types operating under high temperature (800-1200 degrees F.).
2	Chrome Alloy Steel Ball and Race	For types operating under high radial ultimate loads (3000-893,000 lbs.).
3	Bronze Race and Chrome Steel Ball	For types operating under normal loads with minimum friction requirements.
4	"Dyflon"® Plastic Alloy Inserts. CRES Ball and Race. Chrome Alloy Steels.	For types operating under rotational, high radial loads and long cycle life where lubrication is impossible.

Thousands in use. Backed by years of service life. Wide variety of Plain Types in bore sizes 3/16" to 6" Dia. Our engineers welcome an opportunity of studying individual requirements and prescribing a type or types which will serve under your demanding conditions. Southwest can design special types to fit individual specifications. Write for Engineering Manual No. 551. Address Dept. NED-61

SOUTHWEST PRODUCTS CO.
1705 SO. MOUNTAIN AVE., MONROVIA, CALIFORNIA

For more details circle NED-697 C1 on enclosed inquiry slip

CURTISS-WRIGHT ANNOUNCES A NEW LINE OF HIGH QUALITY *PNEUMATICALLY OPERATED* HAND TOOLS



PNEUMATIC DRILLS—Sizes from ¼" to 1¼". Weight, ½ to ⅓ as much as comparable electric drills. Easily controlled speed, for slow starts without pre-centering.

Precision designed, pneumatically operated hand tools manufactured by the internationally known Grasso Works of Hertogenbosch, Holland, are now sold and serviced through the Marquette Division, Curtiss-Wright Corporation. Here is the complete selection of economical hand tools that combine light weight and rugged construction with high speed and excellent balance for fast, comfortable, safe operation and long maintenance-free service. For production, maintenance, and general utility work the complete line of hammers, drills, sprayers, riveters, rammers, and the all-purpose 6-in-1 COMBINAIR kit meet every industrial requirement.

GRINDERS—Small, compact, and powerful with diameters from ¾" to 9".

HEAVY DUTY HAMMERS—Available with round and hex shanks and a wide range of fittings for cutting, scaling, chipping, caulking, etc.

COMBINAIR—6-in-1 all-purpose tool. The basic unit, with attachments, can be used for drilling, cutting, sanding, buffing, corner drilling, and polishing.

FOR INFORMATION WRITE THE MARQUETTE DIVISION, CURTISS-WRIGHT CORPORATION.

CURTISS WRIGHT
MARQUETTE DIVISION
AD NO. 32-5 1145 Galewood Drive, Cleveland 10, Ohio

For more details circle NED-698 C1 on enclosed inquiry slip

UNIPUNCH®

TOOLING IS MORE THAN A PRODUCT LINE . . . IT IS A COST SAVING METHOD!

Illustrating the simple, easy mounting of UNIPUNCH Perforating Units on a template. No adjustments of setup are required for alignment of punches and dies.

● The UNIPUNCH METHOD uses a wide range of standard interchangeable units and parts to lower production costs. This method permits any number of units to be set up quickly outside the press, placed on press bed and produce finished parts with first stroke of press ram. Nothing is attached to press ram—down-time cut to minutes.

The same group of units may be set up in unlimited patterns keeping the tooling investment in continuous operation for greater savings. It's a great big economy story.

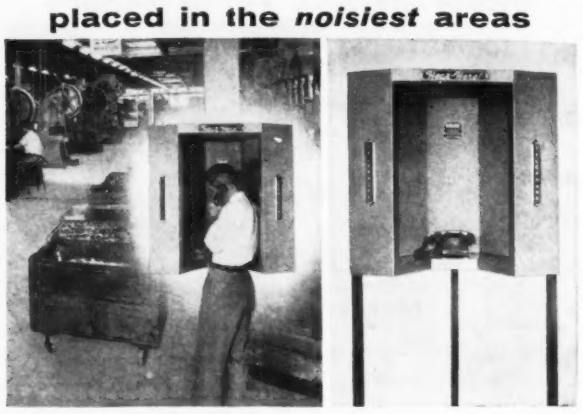
Write Today for* FREE *Methods Book

PUNCH PRODUCTS *Corporation*

378 BABCOCK STREET, BUFFALO 6, NEW YORK

For more details circle NED-694 C1 on enclosed inquiry slip

Talk in the QUIET environment of a BURGESS-MANNING ACOUSTI·BOOTH placed in the *noisiest* areas



outside sounds HUSH as you walk in . . . no rush to distant shop office for important phone calls

The No. 45 above achieves the utmost in acoustical efficiency. No other booth approaches its sound absorbing performance. Open construction allows full ventilation—no hot or stuffy feeling—no stale odors—no doors to maintain. Available for wall mounting, or free-standing on steel legs.

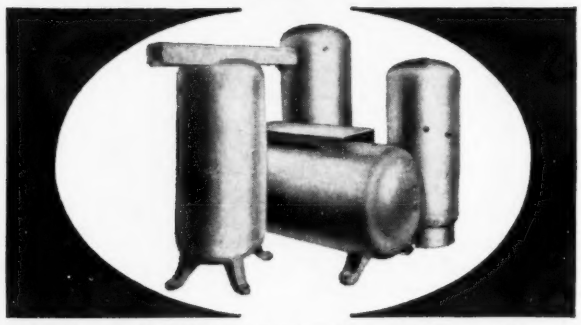
Write for ACOUSTI-BOOTH catalog today showing No. 45 and many other models.

ARCHITECTURAL PRODUCTS DIVISION
BURGESS-MANNING COMPANY
733 East Park Ave.
Libertyville, Ill.

For more details circle NED-699 C1 on enclosed inquiry slip

SCAIFE

AIR RECEIVERS



Scaife "Rolled-Shell" construction provides uniform strength with no weak spots or thin sections.

Highest quality is maintained through rigid tests by air, water, impact, and X-ray. For full information on our complete line of pressure vessels write to:

Kellogg-American

DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

For more details circle NED-700 C1 on enclosed inquiry slip

Speed Tying Operations!

★ Cheaper than String
★ Faster than Tying
★ Sure Grip — no Knots
★ New Measuring Cutter

Cut tying time in half! Hanscom-Ties (colorful plastic or paper covered wire) are the fast, sure way to bundle wires, cords, coils, etc. . . . temporarily and permanently. New Measuring Cutter dispenses faster than ever! Ties are cheaper by the spool (as little as 9 ft. for a penny!)

Measuring Cutter
$7.95 Complete

FREE TIE SAMPLES . . . TRY THEM YOURSELF!

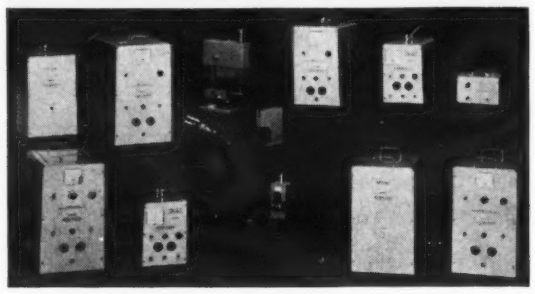
Hanscom-Ties® CUTTER
Pats. and Pats. Pend.

H. F. HANSCOM & CO., INC., 15 Virginia Ave., Providence 5, R. I., U.S.A.

For more details circle NED-701 C1 on enclosed inquiry slip

STORED-ENERGY WELDERS for thin metal work in electronic components

Six different stored energy power supplies and five different weld heads and handpieces comprise line of stored-energy welding equipment for thin metal work

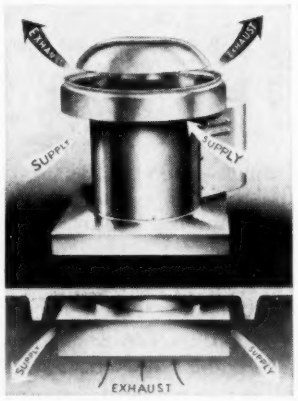


in precision electronic components. Sizes and ratings permit setups to meet needs of manufacturers of relays, tubes, transducers, pots, thermocouples, and dense component packages.

Power supplies feature ultrashort discharge time, metered controls, input voltage regulation, and packaged size for standard bench use. Weld heads are pressure sensitive to insure that present electrode pressures are reached before weld energy is discharged. Company is also providing welding applications assistance, ranging from simple weld feasibility studies to complete weld analyses. It is offering field engineering evaluation in customer plants as well. • **Hughes Aircraft Co.,** Vacuum Tube Products Div., 2020 Short St., Oceanside, Calif.

For more details circle NED-702 C1 on enclosed inquiry slip

ROOF VENTILATOR provides both supply and exhaust in general industrial applications

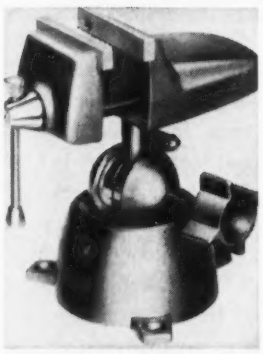


Both air supply and exhaust services are performed by this Twinalator single impeller, package type roof ventilator, suitable for general industrial use. Fresh air, drawn from above roof, is delivered under pressure by the unit and can be louver-directed or ducted to specific areas. At the same time, unit draws exhaust air from under the roof and discharges it to the atmosphere.

Dual action is achieved with a single aluminum fan wheel, the outer portion of which circulates air in the opposite direction to that circulated by the inner portion. Available accessories include a diffuser with motor-operated back-draft dampers, tempering coil cartridges for attachment to diffuser, motor disconnect switch, and cylindrical supply air filter accessible from the roof. Ventilator is applicable for temperatures to 200° F, and for gases and fumes. • **Clarage Fan Co.,** 1 Clarage Place, Kalamazoo, Mich.

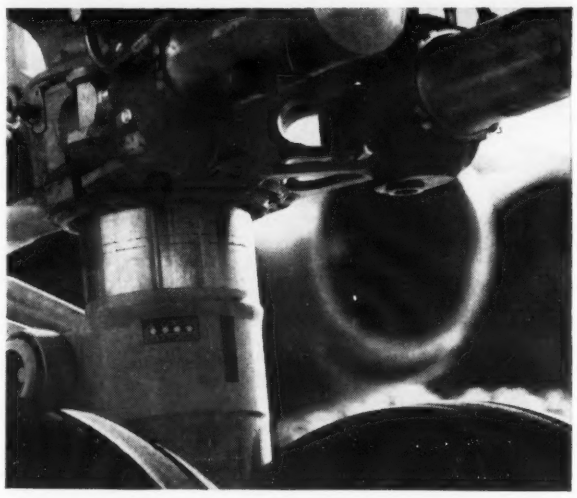
For more details circle NED-703 C1 on enclosed inquiry slip

MULTIPOSITION VISE tilts, rotates to best position



Versatile, multiposition PanaVise accepts work quickly and can be tilted, rotated, and locked in any working position. Device consists of a removable vise head held in a spherical base which is gripped between two pressure discs. Head can be rotated 360 degrees on any tangent to a half sphere and tilted 180 degrees front and back. Locking mechanism can also be rotated 360 degrees around the base. All parts are clamped by tightening a single knob. Any fixture with a 5/8-in. shaft extension can also be inserted in the base and held rigidly in position. Base will support 50 lb at 45 degrees, 6 in. from axis of locking knob. Vise is furnished with 2½-in. wide replaceable nylon or steel jaws which open 2½ in. List price is $14.95. • **Colbert Die Cast Co.,** 10107 Adella Ave., South Gate, Calif.

For more details circle NED-704 C1 on enclosed inquiry slip



HOW DOUGLAS DETECTS DC-8 HOT SPOTS

Temp-Plates detect overheating on the Douglas DC-8 jet transport, just as they do in many other vital applications throughout industry. Simple, positive, easy to use, the Temp-Plate is the little plastic tab that sticks on almost any surface, turns black when the temperature reaches any desired value between 100° and 1,100°F. Temp-Plate is accurate to ± 1%, impervious to shop and flight line atmospheres.

60 temperatures, several tab sizes.

TEMP-PLATE/Pyrodyne, Inc.
11973 San Vicente Blvd.
Los Angeles 49, California

PYRODYNE INC. LOS ANGELES, CALIF.
TEMPERATURE INDICATOR
110°F 120°F 130°F 140°F
BLACK WHEN EXPOSED
PART NO. 240
PAT PEND

For more details circle NED-705 C1 on enclosed inquiry slip

HANDLE HAZARDOUS LIQUIDS SAFELY

UL listed Blackmer Pumps

Blackmer Flo-Master Hand Pumps are one of the few hand pumps listed and approved by Underwriters' Laboratories for handling flammable and hazardous liquids. As proof, each Flo-Master is backed by an official listing card supplied by Underwriters'. Other fine Flo-Master features (Delivery Recorder, Safety Drain-Back, high vacuum, self-priming, 25 GPM capacity) go right along to assure you of the maximum safety, efficiency and economy in handling almost any liquid. Be a card-carrying member in the safety fraternity . . . write for Flo-Master Bulletin 310. Inquire about UL-listed Blackmer power and truck pumps, too.

"liquid materials handling"® equipment

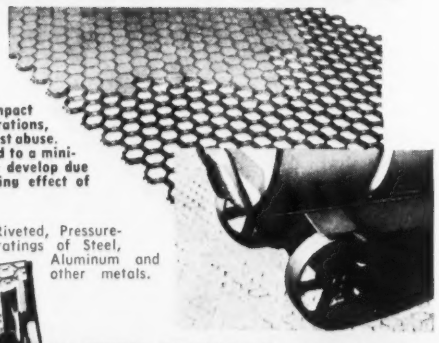
BLACKMER / hand pumps

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN

Find your Blackmer Man under "Pumps" in the Yellow Pages

For more details circle NED-706 C1 on enclosed inquiry slip

SIMPLIFIED FLOOR ARMORING IRVICO® "GRIDSTEEL"



virtually eliminates damage to floors caused by heavy traffic, impact loads, skidding, vibrations, etc. Takes the heaviest abuse. Maintenance reduced to a minimum. Cracks cannot develop due to the stress relieving effect of this steel mesh.

Manufacturers of Riveted, Pressure-Locked, Welded Gratings of Steel, Aluminum and other metals.

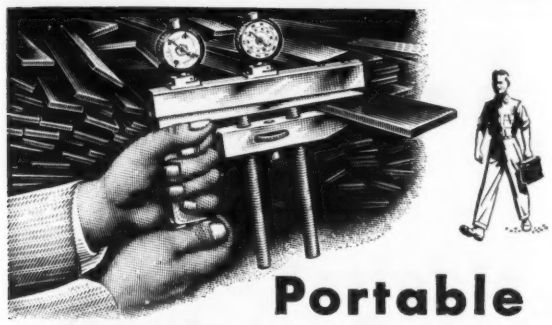
"A FITTING GRATING FOR EVERY PURPOSE"

IRVICO®

IRVING SUBWAY GRATING CO., Inc.
Originators of the Grating Industry
Offices and Plants at
5015 27th St., LONG ISLAND CITY 1, N. Y.
1815 10th St., OAKLAND 23, CALIFORNIA

Write for 20 Page Color Catalog— **"GRIDSTEEL ARMORING"**

For more details circle NED-707 C1 on enclosed inquiry slip



Portable Hardness Tester

FOR ON-THE-JOB ROCKWELL READINGS

Extremely useful in making accurate hardness tests of warehoused stock or parts on the production line. Tester can be attached at any angle without affecting accuracy. No set-up time required . . . sectioning of specimens is eliminated. Fingertip loading up to 150 kg. Read Rockwell scale directly from large dials . . . no conversion necessary. Rockwell Scales A, B, C, D, E, F, G, H, and K available as standard. Weighs just 3 pounds 6 ounces.

For a demonstration, write Dept. NED-361.

Riehle®
RIEHLE TESTING MACHINES DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

For more details circle NED-708 C1 on enclosed inquiry slip

Here's **SUPER-POWER** for Better Lawn Care and Every-Season Use

New Spinaway Heavy Duty **42" RIDING MOWER**

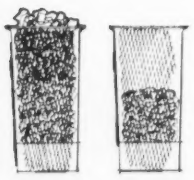
Check its *new* features: free-floating cutting unit avoids scalping . . . can't tip . . . quick, measured height adjustment . . . High Suction for smooth cutting . . . Mower operates independent of travel . . . Automotive type transmission and steering . . . Powerful 9.2 H. P. . . . 3 speeds forward, and reverse. Electric starter optional. "Pat Pend." Phone or write for prices

"The Mower with the Most Tomorrows"

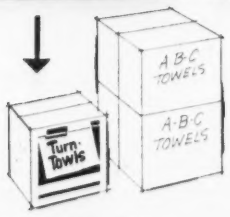
HAL-GAN PRODUCTS, Inc. Dept. NED, 13000 W. Blue Mound Road Elm Grove, Wisconsin

For more details circle NED-709 C1 on enclosed inquiry slip

MOSINEE TURN-TOWLS
produce hidden cost savings



Less Maintenance Cost
Turn-Towl cabinet control cuts towel consumption 50%!



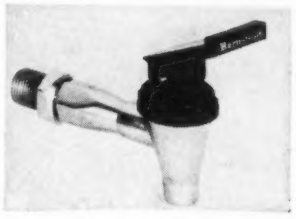
Less Storage Space
One case of Turn-Towls goes as far as four cases of ordinary towels!

Write for the name of your nearest distributor.

MOSINEE Sulphate Towels
BAY WEST PAPER CO.
1084 West Mason Street
GREEN BAY • WISCONSIN
Subsidiary of Mosinee Paper Mills Co.

For more details circle NED-710 C1 on enclosed inquiry slip

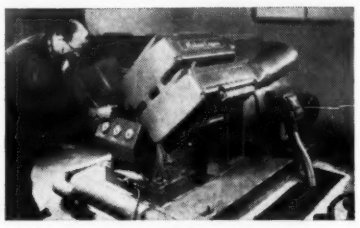
SELF-CLOSING FAUCET prevents loss of distilled water



Dual-function handle of this distilled water faucet closes faucet on release, or keeps it open in set position. Self-closing feature helps maintain purity and prevent loss of distilled water at point of use. Faucet is tin coated inside and has inert silicone rubber plunger which can be easily replaced without tools. It is intended for use in distilled water distribution systems and for distilled and demineralized water storage tanks. • **Barnstead Still & Sterilizer Co.,** 103 Lanesville Terrace, Boston 31, Mass.

For more details circle NED-711 C1 on enclosed inquiry slip

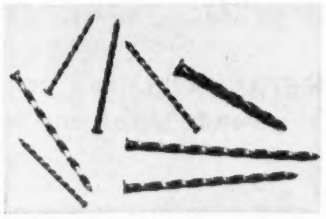
HEAVY-DUTY AIR COMPRESSOR delivers 509 to 565 cfm at 125 psi



Compact Model DT4 heavy-duty air compressor which delivers from 509 to 565 cfm air at up to 125 psi is intended for stationary use. It can also be foot mounted on bonded rubber for semiportable installations. The short-stroke, two-stage, double-acting compressor can be fitted with a control system for automatic operation. It has an air-cooled intercooler and two separate lubrication systems, one for bearings and one for cylinders. Output is 509 cfm at 100 psi when running at 870 rpm. The 2200-lb unit requires 57 x 49 in. floor space and is directly driven by standard electric motor or diesel engine through a flexible coupling. Skid mounted models are also available. • **Atlas Copco, Inc.,** 545 Fifth Ave., New York 17, N. Y.

For more details circle NED-712 C1 on enclosed inquiry slip

DRIVE SCREWS driven by hammer or machine

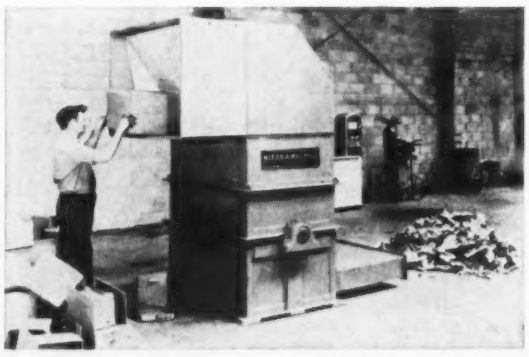


Made from heat treated and tempered square wire, twisted to provide a thread, Helyx drive screws have uniformly high holding power. When driven by a hammer or machine they turn and hold like a screw. Holding power is reported to be 220 per cent of a common nail. Standard points and nonsplit chisel points which eliminate splitting hardwood boards are available. Suited for making pallets, tote boxes, bins, and framing, the drive screws can be driven through Masonite, Transite, or metal-sheathed board. Screw gages from No. 1 to 9 and lengths from ½ to 4 in. are made. All can be driven by automatic nailing machines. • **Hillwood Mfg. Co.,** 21700 St. Clair Ave., Cleveland 17, Ohio.

For more details circle NED-713 C1 on enclosed inquiry slip

CARTON SHREDDING MACHINE manually or automatically fed

Scrap cardboard boxes and cartons are disposed of as rapidly as they can be fed into this carton shredder. They are shredded to pieces from 4 to 12 in. in size,



depending upon customer needs. Machine can be manually fed or operated as part of an automatic system. Force of the shredder blades throws the pieces out for feeding directly or through an air flow system to a baler or incinerator. It can be modified to any system. • **Mitts & Merrill, Inc.,** 1009 S. Water St., Saginaw, Mich.

For more details circle NED-714 C1 on enclosed inquiry slip

MACWHYTE MONEL METAL WIRE ROPE RESISTS CORROSION

Macwhyte Monel Metal wire rope is a preformed wire rope of a high-nickel-content alloy steel. Monel Metal is more resistant to corrosive substances than any other commercial metal. Monel Metal wire rope will resist pickling solutions, salt water, fruit juices, food acids, soaps, and alkaline substances. It also resists such acids as sulfuric, hydrochloric, and hydrofluoric. It is ideal for use on hoists, conveyors, and controls exposed to highly corrosive conditions.

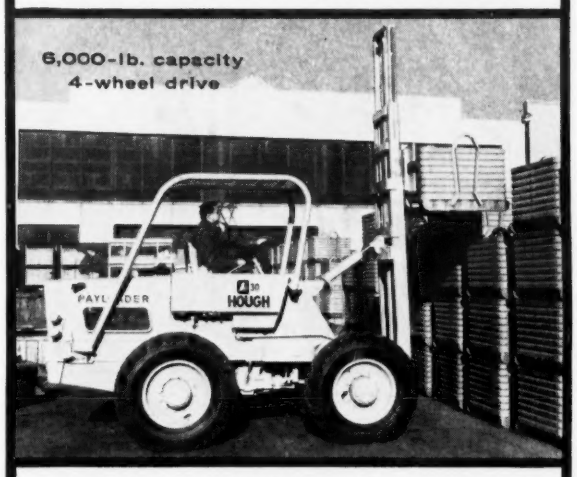
For more information, or specific recommendations for your application, write: Macwhyte Wire Rope Company, Kenosha, Wis., U. S. A. Ask for bulletin 49-30.

186

MACWHYTE Wire Rope COMPANY

For more details circle NED-715 C1 on enclosed inquiry slip

New **PAYLOADER®**



FORK LIFT TRACTOR

4-wheel drive and big tires work indoors or outdoors . . . on paved or unpaved areas

Big Capacity — 6,000 lbs. at 24" load center; masts for 12', 14', or 21½' stacking heights; tine-width adjustable to 48".

Easy Operation — with complete hydraulic control of mast and forks. Power shift, power-steering and 4-wheel hydraulic brakes add to operating ease.

Power and Traction — 6 cylinder, 77½ h.p. gasoline or 71½ h.p. diesel engine. Four-wheel-drive with torque proportioning differentials, and 12:00 x24 tubeless tires.

Speed and Stability — Full-reversing, full power-shift transmission with matching torque-converter provides 3 forward speeds to 21.3 m.p.h. and 3 reverse speeds to 25.7 m.p.h. . . . quick shifts and fast shuttling. Long wheelbase, wide tread and superior weight distribution gives unusual stability.

Convertible to Shovel — Easily changes into versatile tractor-shovel of 3,000-lb operating capacity with ¾ to 2-cu. yd. (SAE rated) bucket capacity, or patented "4-in-1" bucket.

Allied Attachments — Crane Hook, Brick Fork, Backfill Blade, Concrete Bucket, Side Shifter, Log Clamp, Rear-mounted Backhoe.

Your Hough Distributor is ready to show you what this Fork Lift Tractor can do — also the many sizes of "PAYLOADER" tractor-shovels — to improve materials-moving efficiency.

3-B-2

HOUGH®
THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY — INTERNATIONAL HARVESTER COMPANY

For more details circle NED-716 C1 on enclosed inquiry slip

NOW! Use this Portable Bag Closing Machine

CLASS 2100

HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

LIGHTWEIGHT—9½ pounds. Carry it anywhere. No installation; requires only an electrical outlet.

POWERFUL—Direct drive motor with thumb control button. Exclusive top and bottom feed for greater power and production.

VERSATILE—Closes bags made of cotton, burlap, jute, multiwall paper, laminated paper.

SAFE—Anyone can operate it. No special training required. Comes with shoulder strap or can be obtained with overhead suspension. Send for descriptive literature.

FINEST QUALITY

Union Special® MACHINE COMPANY
416 N. Franklin St., Chicago 10, Ill., U.S.A.

For more details circle NED-718 C1 on enclosed inquiry slip

USE THE Nissen BALL POINT WRITING TUBE

make permanent marks on **metal wood plastic glass**

This ball point marker saves considerable time in marking, numbering or coding products made of wood, metal, plastic and glass. It is widely used because:
• tube with ball point makes application easy on rough or smooth surfaces • special, fast drying opaque ink withstands heat and weathering • marks will not chip, peel, fade or rub off • 7 different colors are available • 3 different size ball points make fine or broad lines

Write, wire or call for a trial order

JOHN P. NISSEN, JR. Co., *manufacturers*
GLENSIDE, PENNSYLVANIA • CALL TUrner 4-4664

For more details circle NED-719 C1 on enclosed inquiry slip

NOW YOU CAN PAINT OVER RUST

Brush or spray OSPHO on rusted metal.

Apply OSPHO® on rusted metal after simply wire-brushing loose rust. OSPHO chemically changes rust into iron phosphate and stops further rust action. Resulting inert surface is an excellent base for maintenance paint. Paint jobs last longer, as proved by repeat orders over past 12 years.

Non-toxic, non-flammable. A gallon treats up to 600 sq. ft. Treats new metal too — prepares galvanized and aluminum surfaces for paint.

1-gal. bottles (cases of 4) @ $3.50 per gal.
5-gal. pails @ $3.40 per gal. • 50-gal. bbls. @ $3.00 per gal.
F.O.B. CLEVELAND

NO-RISK OFFER. Order 5 gallons. Try OSPHO. If it does not do what we claim, *we'll cancel the invoice.*

RUSTICIDE PRODUCTS COMPANY
3131 Perkins Ave., Cleveland 14, Ohio
Quality Maintenance Products Since 1917

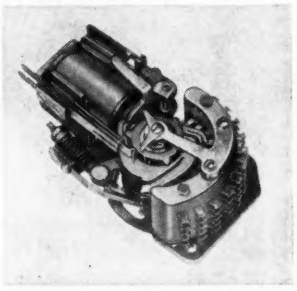
For more details circle NED-720 C1 on enclosed inquiry slip

BEARING TAKE-UP FRAMES adjust pillow blocks horizontally

Any babbitted, bronze, ball, or roller bearing in any two-bolt pillow block with mounting holes up to ⅝ in. can be accommodated by Multi-Bearing take-up frames, available in 11 sizes. Frames mount 143 different bearing shaft sizes from ⅝ to 2 7/16 in. and allow horizontal bearing adjustments from 6 to 24 in. Units consist of steel channels that form a highly rigid box frame. Of the two mounting pads, one is moved by an adjusting screw; the other slides freely to proper distance between pillow block mounting holes. • **Link-Belt Co.**, Prudential Plaza, Chicago 1, Ill.

For more details circle NED-721 C1 on enclosed inquiry slip

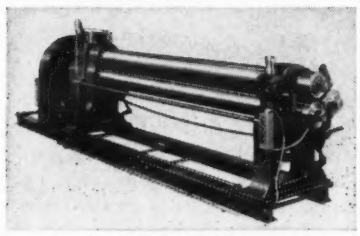
ROTARY STEPPING SWITCH has 10 points per wiper cycle



Type 40 rotary stepping switch is stepped by external impulses, or may be driven self-interruptedly, or both. It steps when coil is de-energized. Suited for industrial control and automation uses, the true "decimal" unit has 10 points per wiper cycle. It provides up to 30 contacts per cycle and is available with one to five bank levels of 10 contacts each. Units are offered for 6, 12, 24, 48, 60, and 110-v dc, or rectified 115-v ac operation. A three-level switch operated at 48 v will step about 65 steps per second, self-interrupted, or at up to 35 steps per second if pulse controlled. Switch has high dielectric molded banks, and is also available with taper tab terminals and hermetically sealed enclosures. • **Automatic Electric Co.**, 400 N. Wolf Rd., Northlake, Ill.

For more details circle NED-722 C1 on enclosed inquiry slip

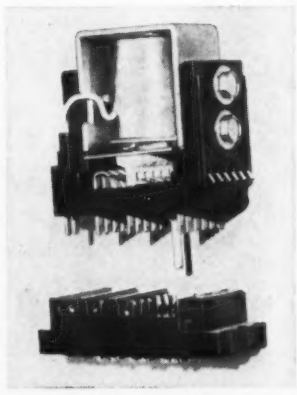
METAL FORMING ROLL bends sheet and metal angle



In addition to bending up to 122-in. wide metal sheet from 20-gage to 7/16 in., the Initial Type metal forming roll will also bend metal angle from 1 x 1 x ¼ in. to 2½ x 2½ x ¼ in. Rolls have extended journals with adjustable guide rollers and interchangeable roll heads so that tees, channels, flat and round bars, in addition to angles, can be shaped. Controls are conveniently located at operator's position. • **Hendley & Whittemore Co.**, 100 Blackhawk Blvd., South Beloit, Wis.

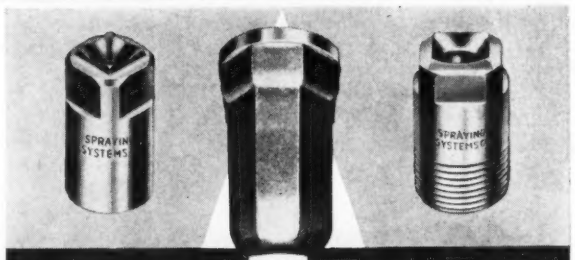
For more details circle NED-723 C1 on enclosed inquiry slip

PLUG-IN RELAYS with 48 and 115 v dc coils



Modular constructed, wire contact, plug-in relays, available in 4, 6, and 12-pole versions, are adapted to rack mounted circuitry where space is limited. They are available in 48 and 115 v dc coils which operate in 4½ milliseconds and release in 3 milliseconds. Contact arms are double wire silver alloy springs removable by hand without tools. Contacts of each arm are rated 1 amp resistive at 25 v dc or 115 v ac for 1 million operations; 0.5 amp for 3 million operations; and 3 amp for 200 million operations where load is not switched. Special voltages are obtainable. • **Wheelock Signals, Inc.**, 273 Branchport Ave., Long Branch, N. J.

For more details circle NED-724 C1 on enclosed inquiry slip



WIDE ANGLE 93° to 115°

A NEW DESIGN IN **SQUARE SPRAY** *FullJet* SPRAY NOZZLES

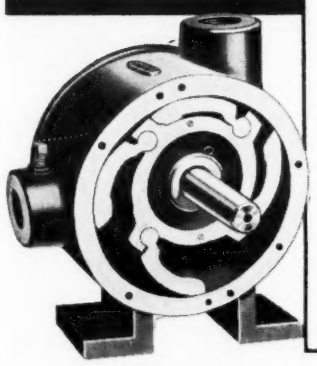
For numerous multiple-nozzle applications, because the square spray patterns "fit together", here are nozzles that make possible uniform, complete coverage with fewer nozzles per manifold. This is the latest design in Spraying Systems' very complete line of FullJet nozzles in square and standard-circular spray patterns. For complete information write for Bulletin 105 and Catalog 24.

SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

AMERICA'S MOST COMPLETE LINE OF SPRAY NOZZLES

For more details circle NED-725 C1 on enclosed inquiry slip

BIGGEST SCOOP in AIR PUMPS!



Leiman CURVED VANES SCOOP UP MORE AIR
- - provide high capacity with slower speeds and less wear

• Four curved vanes scoop up large volumes of air—provide 2 to 3 times more air space. Mounted on easy-action hinges to assure perfect contact with cylinder walls by centrifugal force. Vanes and cylinders made of durable cast iron (no composition). Hone themselves to hard, glassy smoothness to assure leak-proof seal and reduce frictional wear. Negligible wear is automatically taken up by rotating vanes.

Leiman Air Pumps maintain new-pump efficiency and fully-rated vacuum or pressure for the life of your equipment, with little or no maintenance or repair.

Fewer moving parts—no gaskets or packing—no composition vanes to wear out or renew. Pulseless airflow—every pump tested. Many models and sizes to meet your needs. Over 70 years' air engineering at your service on any design or application.

LEIMAN Rotary Positive **AIR PUMPS**
Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

WRITE FOR NEW CATALOG plus Application Book showing hookups.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N.J.
Established 1889

For more details circle NED-726 C1 on enclosed inquiry slip

NEW Airfeedrill® with aircheck feed control

Now it's easy and inexpensive to automate drilling such materials as plastics, wood, aluminum, steel, cast iron and sheet metal. Engineer an automatic drilling setup with new Gardner-Denver "Airfeedrills" with aircheck feed control. These versatile drills are easily adaptable to almost any drilling setup. But find out for yourself how quickly and economically you can automate *your* precision drilling operations. See your Gardner-Denver representative or write for free Bulletin 92-121.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

For more details circle NED-727 C1 on enclosed inquiry slip

Explosion-Proof Solenoid Valves

- Stainless steel two- and three-way solenoid valves—X5 series
- Two-way piston type solenoid valves—XR series
- Two- and three-way diaphragm type solenoid valves—XL series
- Two- and three-way high pressure hydraulic solenoid valves—X10 series

For complete information, contact a Skinner Distributor listed in the Yellow Pages, or write us Dept. 433.

SKINNER ELECTRIC VALVES

THE CREST OF QUALITY SKINNER ELECTRIC VALVE DIVISION SKINNER PRECISION INDUSTRIES, INC. • NEW BRITAIN, CONNECTICUT, U.S.A.

For more details circle NED-728 C1 on enclosed inquiry slip

Nothing SEALS as POSITIVE!

NYLTITE®

ROLLED NYLON WASHERS

make a positive seal up to 250°F and can be used with any standard fastener including tapping screws

NYLTITE WASHERS SEAL AND STOP LEAKS WITHSTAND PRESSURE UP TO 15,000 PSI RESIST VIBRATION • PREVENT CRAZING RETARD ELECTROLYSIS AND ARE EXCELLENT FOR INSULATING

(Long, headed sleeves are also available from stock)

SEND FOR SAMPLES AND LITERATURE NOW!

NYLTITE CORPORATION OF AMERICA

280 BADGER AVENUE • NEWARK 8, NEW JERSEY

For more details circle NED-729 C1 on enclosed inquiry slip

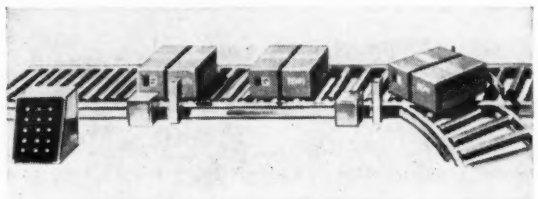
WIRE STRIPPER
two models cut braided shielding

Braided wire shielding is stripped from coaxial cable and shielded wire by the Cadre shielding stripper. Suited for use in various industries, the machine is safe and easy to operate without training. Wire to be stripped is inserted into the foot switch-actuated cutter assembly. Scrap shielding is ejected by an air blast. Model 15 cuts infinitely variable shielding lengths from ½ to 1½ in., whereas Model 35 cuts ½ to 3¼-in. lengths. Diameter of the shielding accommodated is fixed, but cutting heads for different diameters are readily interchanged. Designed to strip only braided wire, the machine requires that any plastic outer sheath or insulation be previously removed. Power supply is 115 v, 60 cycles ac. • **Cadre Industries Corp.**, Box 150, Endicott, N. Y.

For more details circle NED-731 C1 on enclosed inquiry slip

CONVEYOR CONTROL
automates existing systems through magnetic code patterns

Adaptable to package, parts, or container conveyor lines, Mag-Pac magnetic control system is extremely flexible in operation. Principal units in the system

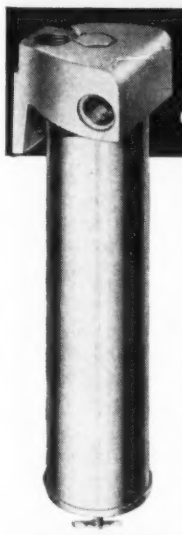


are the dispatcher, marker, tally, reader, and coordinator. An optional selector system is provided where operators are selecting specific items from the conveyor line as needed. With appropriate combination of these interchangeable basic control units, any conveyor system can be automatically preset to direct materials to selected stations, unload or load when ready, follow various routes, give priority, and carry out many similar operations.

Automatic item identification and selective interception of conveyor loads is accomplished through magnetic code patterns. Any suitable metal surface associated with the load can act as the tally. Tally record lasts indefinitely. Items marked and stored can be pulled out and re-directed at any time. Conveyor lines can be horizontal, vertical, or in combination, and they can run between floors or even between buildings. • **Flo-Tronics, Inc.**, Electronic Controls Div., 712 W. Ontario Ave., Minneapolis 3, Minn.

For more details circle NED-732 C1 on enclosed inquiry slip

Protect air-operated equipment with the low-cost DeVilbiss



Model HRE-501

Dirt, Moisture, & Oil Separator

Delivers up to 50 cfm of air for pneumatic tools, blow guns, air-operated controls, clutches and cylinders.

Permanent-type air cleaner and dirt filter is used. All-metal centrifugal water and oil eliminator requires no attention. Convenient bottom valve for draining off sediment and liquids.

Corrosion resistant—built to operate with up to 250 psi air. Has built-in mounting bracket. Write today for spec sheet.

DEVILBISS

THE DEVILBISS COMPANY
Toledo 1, Ohio

BRANCH OFFICES IN PRINCIPAL CITIES

For more details circle NED-734 C1 on enclosed inquiry slip

JUST WON'T SLIP! STYLE NO. 411

The rough finished latex coating of this Granet **SLIP-NOT** glove provides thousands of gripping edges that really bite . . . like a tread on a tire. It just won't slip! A rugged, general purpose work glove . . . ideal for handling lumber, concrete, metal, glass and other 'hard-to-handle' materials.

Whether you are concerned with grease, chemicals, mechanical abrasion or other hand protection needs, check the Granet Line of gloves first.

Write . . . on your letterhead for a free pair. Test them yourself!

Granet Gloves . . . manufactured under stringent quality control methods . . . are guaranteed as first quality.

THE GRANET CORP.

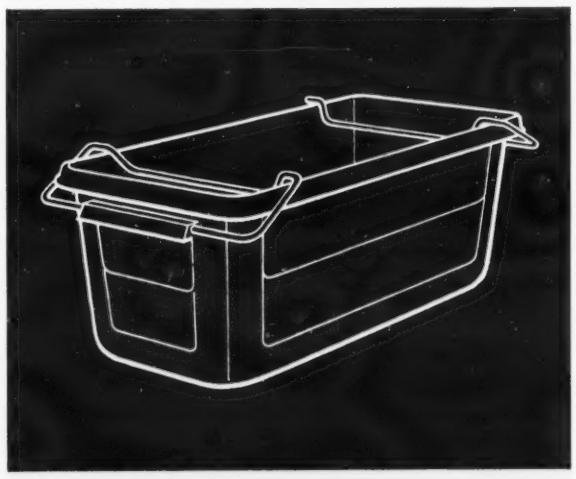
25 LORING DRIVE, FRAMINGHAM, MASS.

For more details circle NED-735 C1 on enclosed inquiry slip

Let wear-ever move it

Even the women in your plant can handle lightweight Wear-Ever aluminum trucks. This newest addition goes like lightning, yet stands up to long, hard use. One-eighth-inch thick, heavy-duty aluminum base. Eight-inch diameter rubber-tired casters roll smoothly over uneven floors. Special panels (two sides, one end) turn 47" x 23" flat bed truck into a panel truck. Send reply card for full details on this and other Wear-Ever trucks; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery. A-5440-3

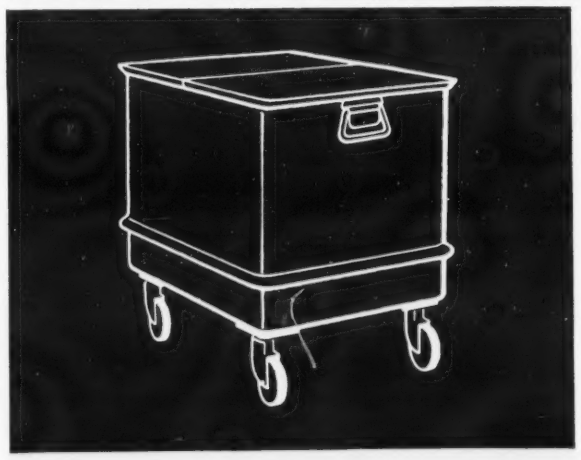
For more details circle NED-730 C1 on enclosed inquiry slip



Let wear-ever store it

Common-sense design, that's where Wear-Ever shines. For example, Wear-Ever makes tote boxes with special handles that permit stacking when full—nesting when empty. After that you have Wear-Ever's superior construction going for you. Extra-heavy-gauge aluminum alloy, no seams to catch parts (or dirt). Wear-Ever stocks popular sizes with dollies to fit—for immediate delivery. Send reply card for full details on these and other rectangular containers; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. A-5440-5

For more details circle NED-733 C1 on enclosed inquiry slip



Let wear-ever keep it handy

Save amazing amounts of time. Keep parts or material at workers' finger tips in Wear-Ever mobile bins. Round, square—27-, 30-, 38- and 50-gallon capacity—all made of tough, nonsparking aluminum alloy. No seams or crevices to collect dirt (or small parts). Hard rubber wheels or casters for long wear. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate shipment from stock. A-5440-1

For more details circle NED-736 C1 on enclosed inquiry slip

APCO TORQUE TOOLS TO MEET EVERY REQUIREMENT

Apco Mossberg manufactures over 75 standard styles of torque tools ranging from an inch gram to 2000 foot pounds. In addition, they build many special tools for specific applications.

Every Apco torque tool is manufactured to rigid specifications to assure you the best available. They meet government standards, and are built to withstand 50,000 flexes without adjustment.

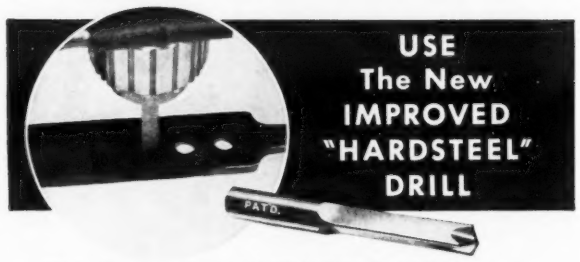
The Apco Mossberg Catalog of Torque Tools describes all styles, giving full information as to capacity, sizes and price. Write for your copy now.

- Special Purpose Wrenches
- Original Equipment Wrenches
- Torque Tools

APCO MOSSBERG COMPANY
161 Lamb Street, Attleboro, Mass.

For more details circle **NED-737 C1** on enclosed inquiry slip

Drill Hardened Steels without Annealing –



With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

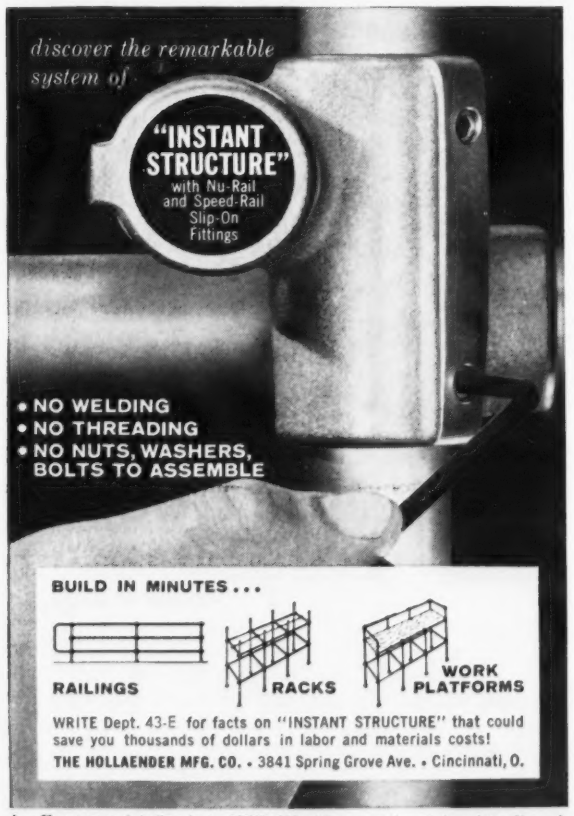
Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

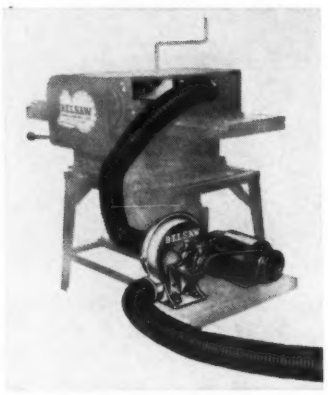
"HARDSTEEL"

For more details circle **NED-738 C1** on enclosed inquiry slip



For more details circle **NED-739 C1** on enclosed inquiry slip

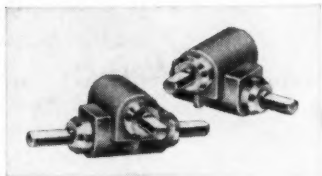
DUST BLOWER
collects woodworking machine dust



Saw dust and shavings generated by saws, planers, and other woodworking machines are collected by this easy-to-install Dust Blower. Hood is attached directly to the woodworking machine and draws dust through a flexible hose of any desired length to a waste container. Unit is also portable for general shop cleaning. Complete unit with collector-hood, flexible hose, fan blower, ¼-hp motor, switch cord, plug, V-belt, and pulley is shipped assembled. It weighs 45 lb and lists for $87.50. • **Belsaw Machinery Co.**, 315 Westport Rd., Kansas City, Mo.

For more details circle **NED-740 C1** on enclosed inquiry slip

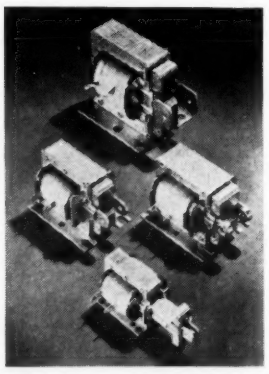
ANGLE DRIVES
static torque rating is 25 lb-in.



Designed for use with flexible shafting, the Model 9056HF T-drive and Model 9056-119 right angle drive serve a variety of other uses in new or existing equipment. They have an aluminum alloy housing, steel gears, and Oilite bearings. Ultimate static torque capacity is 25 lb-in. with a backlash of 6 degrees. Weights are 4 and 3½ oz, respectively. Drives are furnished in gear ratios of 1:1, 1:2, and 2:1, with other ratios on order. Both have ¼-in. diameter shafts cut to a 1/16-in. flat for attachment of coupling ends. • **F. W. Stewart Corp.**, 4311-13 Ravenswood Ave., Chicago 13, Ill.

For more details circle **NED-741 C1** on enclosed inquiry slip

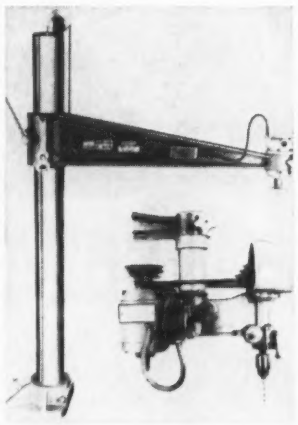
SOLENOIDS
improved for adverse conditions



Dependable service under adverse conditions is assured with improved Super-T solenoids designed to replace the CT line. Redesigned plunger has a sturdier pull bar, and a larger contact area between co-acting parts contributes to longer, trouble-free performance. The three sizes offered, Models 1000, 2000, and 3000, can be supplied with moisture resistant, moistureproof, or with resin encapsulated coils. Units find use in business machines, automation equipment, venders, and small machine tools. • **Dormeyer Industries**, Dept. ND-5, 3418 N. Milwaukee Ave., Chicago 41, Ill.

For more details circle **NED-742 C1** on enclosed inquiry slip

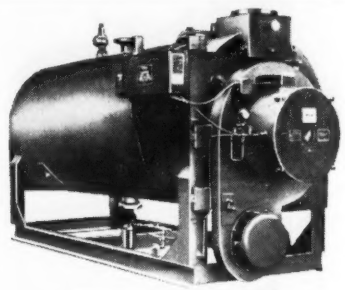
OVER-ARM ROUTER DRILL
drills to center of 82-in. work



The Rak-Ho over-arm router and radial drill combination is a versatile woodworking and metal fabricating tool with routing height adjustable from 0 to 55 in.; drilling height, from 0 to 38 in. Counterbalanced aluminum alloy arm which slides up and down the 5-in. steel column rotates 360 degrees. It allows routing to center of a 70-in. workpiece; drilling to center of 82-in. workpiece. Standard Delta or Craftsman drill head attaches to arm with an adaptor. The Stanley M-1 router motor is rated 1 hp, 18,000 rpm. The 12 x 12-in. cast iron base bolts to any size surface plate or stand. • **Rak-Ho Products, Inc.**, 31071 Fraser Dr., Fraser, Mich.

For more details circle **NED-743 C1** on enclosed inquiry slip

$ savers!



Continental 2-PASS

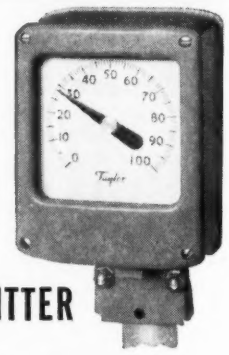
AUTOMATIC BOILERS

• Cost less to buy, operate and maintain • Guaranteed 80% minimum efficiency with oil and equivalent with other fuels • Longer life with balanced internal circulation and uniform heating of boiler surfaces • Time-saving fireside accessibility with hinged front door, davited rear door • No costly complex refractory at front or rear • Guaranteed low stack temperature • From 20 to 50% *efficient* reserve capacity obtainable in "F" Models • Front or rear tube removal • Completely factory-assembled and fire-tested • Fast steaming • Space-saving compactness • Completely automatic operating and safety controls • Quiet operation • Sizes 15-600 hp., 15-250 psi., steam or hot water for process or heating service • Now available on Lease or Time-Payment Plan • Nationwide sales and service • Ask for Bulletin BE-400.

CONTINENTAL BOILER DIVISION
Boiler Engineering & Supply Co., Inc.
Phoenixville, Pennsylvania

For more details circle **NED-744 C1** on enclosed inquiry slip

Taylor ANNOUNCES NEW TRANSCOPE® TRANSMITTER



Featuring high accuracy, servo-driven indication (optional) and exceptional readability, the new No. 210T motion-balance transmitter is designed for Gage Pressure, Volumetric Pressure, Volumetric Load and Temperature.

Accuracy of transmitted signal is within ½% of the input signal. Indication within ±1% of actual value. Threshold sensitivity 0.1% of input span.

Servo power means ample power for process alarms, digital encoders, potentiometers, etc., with no loss of accuracy in the transmitted signal.

Scale can be read up to 35 ft. away. Concentric 270° scale is 11¾" long. Yet case measures only 7" x 9" x 4". Designed for easy maintenance and field installation, the 210T has only 3 basic parts. Case is completely weatherproof. Wall or pipe mounting.

Ask your Taylor Field Engineer for details, or write for **Bulletin 98385**. Taylor Instrument Companies, Rochester, New York, or Toronto, Ontario.

Taylor Instruments **MEAN ACCURACY FIRST**

For more details circle **NED-745 C1** on enclosed inquiry slip

THOMSON "Snap-In" NYLINERS
—BEARINGS of smooth, tough DuPont NYLON

COST less to BUY ...less to INSTALL ELIMINATE LUBRICATION!

Additional Benefits:

- CLOSE FIT
- LONGER LIFE
- EASILY INSTALLED
- LESS SERVICING
- SELF-RETAINING
- RESIST CORROSION
- LOW FRICTION
- RESIST POUNDOUT
- NO FRICTION OXIDATION
- DAMP VIBRATION
- OPERATE IN LIQUIDS
- NON-CONTAMINATING
- INSTANTLY REPLACEABLE
- RESIST ABRASION
- MINIMUM SPACE
- SILENT OPERATION
- LIGHTEST WEIGHT
- REDUCED WEAR

NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

Seven Standard Types available from stock. Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

Also— —Manufacturers of BALL BUSHINGS . . . the Ball Bearing for Linear Motions and 60 CASE . . . Hardened & Ground Steel Shafting

For more details circle **NED-746 C1** on enclosed inquiry slip

NEW HIGH STRENGTH RATTLE-PROOF ALUMINUM GRATING DESIGN

KERRIGAN IRON WORKS COMPANY Nashville, Tennessee

SEND NOW FOR YOUR FREE COPY

Address: Dept. N-3

For more details circle NED-747 C1 on enclosed inquiry slip

HANDIER All-Purpose TRACTOR POWER!

Use Wheel Horse for all grounds maintenance

22 OPTIONAL ATTACHMENTS

36-in. rotary mower or 3-gang reel with 5-ft. swath, snow blade, steel dump trailer, all lawn tools.

FREE!

"Tell-All" illustrated booklet. Shows uses, specifications of tractor, tools. Send name, address.

Wheel Horse does everything—faster! Mows lawn, clears snow, rakes and hauls. Keeps your site a showplace—year 'round. Enough power to pull a moving van. Automotive type drive—geared transmission. 3 speeds forward plus reverse. Strictly heavy duty—a compact tractor!

WHEEL HORSE PRODUCTS, INC.
51455 U.S. 31, South Bend 17, Ind.

For more details circle NED-748 C1 on enclosed inquiry slip

STOPS RUST!

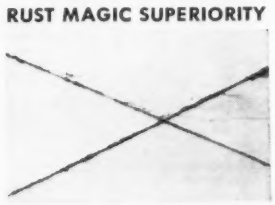
BRUSH OR SPRAY!

530% better than other widely promoted brands

DRY IN 20 MINUTES! TOP COAT IN 2 HOURS!

Krylon Rust Magic penetrates rust in minutes, bonds itself to the metal, positively prevents further corrosive action. Compatible with almost any finish . . . lacquers, enamels, varnishes, acrylics, epoxies, vinyls, latex, oil-base and water-base paints. Earned a near-perfect 9.1 rating in ASTM Rust Prevention Index tests . . . 530% higher than other leading brands! At leading jobbers and paint stores everywhere—or write on your company letterhead for information.

RUST MAGIC SUPERIORITY



RUST MAGIC

BRAND A

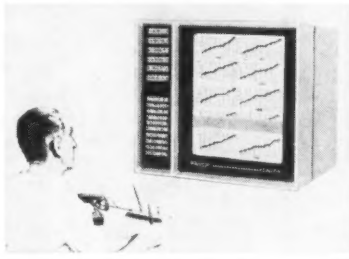
Metal panels subjected to extreme salt spray for 325 hours. Rust Magic panel film shows no defect or corrosion except where scribed through to bare metal. Brand A shows severe blistering, under-film corrosion, lifting and creeping.

KRYLON, INC. NORRISTOWN, PA.

Since 1948 KRYLON has sold more aerosol paints than all other aerosol brands combined

For more details circle NED-749 C1 on enclosed inquiry slip

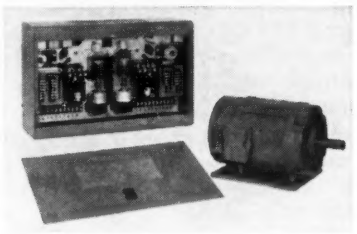
PRODUCTION RECORDER
shows machine efficiency, down time



This K-Logger production recorder graphically displays the production status of any number of machines minute-by-minute throughout the day. It provides a master chart on which 4 x 6-in. graphs are printed, one for each machine. Graphs show total number of pieces produced, rate of production, when downtime occurs, for how long, and why. Along side of graph-sheet are a number of digital counters, six of which accumulate machine-minutes of downtime from all machines for each of six causes. Other counters repeat in digital form the production count. Systems are offered on rental basis at a cost of about $300 per month for 16 machines. • **Keinath Instrument Co.**, 1223 Grandview Ave., Columbus 12, Ohio.

For more details circle NED-750 C1 on enclosed inquiry slip

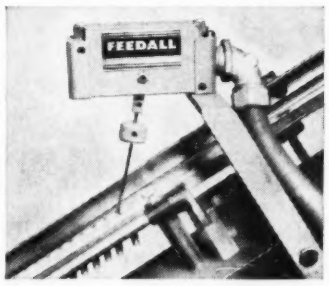
ADJUSTABLE SPEED DRIVE
in up to 7½-hp electronic units



Two sizes with 3-hp and 7½-hp ratings have been added to the Series 25 electronic adjustable speed drives, previously made in ratings to ¾ hp. Speed ranges up to 100:1 are attainable. By controlling two thyratron tubes in the full-wave circuit with a magnetic amplifier, drives will hold selected speed within 2 or 3 per cent, even with widely varying loads. They include reversing and dynamic braking. Standard input is 230-v, 60-cycle ac, though other voltages can be supplied. • **Cleveland Machine Controls, Inc.**, 1155 Brookpark Rd., Cleveland 9, Ohio.

For more details circle NED-751 C1 on enclosed inquiry slip

BANK CONTROL SWITCH
regulates flow of moving parts



Only ⅓-oz force is required to operate Model 110 bank control switch which regulates the flow rate of small or lightweight moving parts. Pressure of moving workpieces maintains the desired flow rate. A counter weight on the sensing arm permits slight adjustment of actuating pressure. The 12-oz switch operates on 110 or 220 v, can be used for nonmagnetic materials, and has application on parts feeders, conveyors, special machines, and handling equipment. • **Feedall, Inc.**, 38399 Pelton Rd., Willoughby, Ohio.

For more details circle NED-752 C1 on enclosed inquiry slip

LEAD SCREW TAPPING HEAD
fits any drill press for power only

Even unskilled operators can produce precision tapped holes with the Model 21S Auto-tap lead screw tapping head. It fits any drill press, using it for power only, and has an actuating lever, stop and depth control as integral parts. The lead screw carries the thrust while the tap cuts only the thread. Pitch of the hardened and ground lead screw is matched to that of the tap being used, thereby overcoming initial starting torque. The unit drives taps up to 5/16 in. or as fine as No. 0. It runs in an alloy bronze nut, adjustable for wear, and is powered by a cone clutch that runs in oil. • **Ettco Tool & Machine Co.**, 594 Johnson Ave., Brooklyn 37, N. Y.

For more details circle NED-753 C1 on enclosed inquiry slip

Hand Knives

Razor sharp, right from the stock box — no need for your men to hone or sharpen up Hyde knives. Since 1875, Hyde has been recognized for the outstanding quality of the millions of hand knives that have been distributed around the world.

Send for free pocket catalog and product listing chart describing Hyde Hand Knives and Fix-Up, Paint-Up Tools.

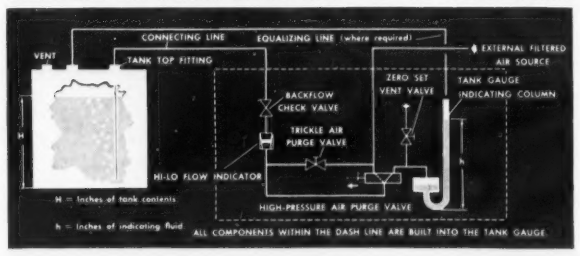
HYDE

HYDE MFG. CO.
SOUTHBRIDGE, MASS., U.S.A.

For more details circle NED-754 C1 on enclosed inquiry slip

integral blow-down TANK GAUGE with continuous purging systems

HERE'S HOW THE MERIAM HYDROSTATIC GAUGING SYSTEM WORKS



Now . . . you can specify a continuous purge tank gauge and blow-down device *with all the working parts in one package!* Just pull a knob to remove condensate, scale and sludge from your tank gauging lines connected to either vented or pressurized closed tanks. Installation is simple. Meriam's new tank gauge requires only two connections to your present system. In hazardous areas, the instrument can be located as far as 800 feet from the tank. Gauges are available in single or dual blow-down units and in compact multiple-tube groups with up to six gauging tubes in one assembly.

THE MERIAM INSTRUMENT CO.

10950 Madison Avenue
Cleveland 2, Ohio

Send for Bulletin L-10 Today

10946-MI

For more details circle NED-755 C1 on enclosed inquiry slip

FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC AMPLICALL INTERCOMMUNICATION

the "clear line" to everyone in your business...

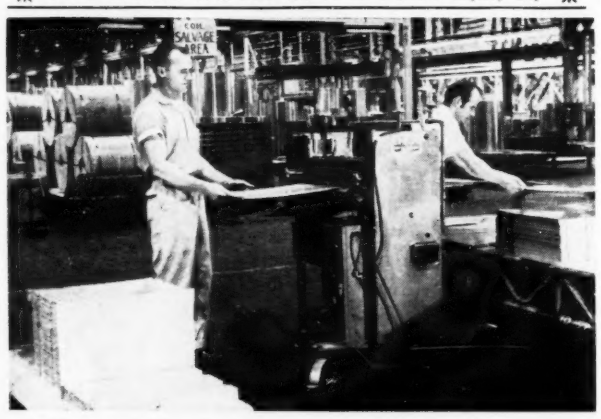
available with privacy handset, light and chime signals

AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.

For more details circle NED-756 C1 on enclosed inquiry slip



Union Roller Coater applies drawing compounds at KAISER ALUMINUM

At the Ravenswood Works, Kaiser Aluminum & Chemical Corporation, Ravenswood, West Virginia, a Union 26" No. 5 Roller Coater gives *top performance* coating sheet aluminum prior to drawing. *Union Roller Coaters are at work everywhere,* applying drawing compounds, adhesives, paint . . . any fluid substance . . . to metal, plastic, wood, rubber, paper, fabric. Models to handle sheets from 6" to 108" wide, variable thicknesses, *coating one or both sides,* either or both edges, continuously or intermittently, automatically. What's your coating problem? *Write today!*

927 North Detroit Street

THE UNION TOOL CORPORATION
WARSAW, INDIANA

For more details circle NED-757 C1 on enclosed inquiry slip

EVERY *Genuine* RIDGID IS

WORK-TESTED

to make sure you get the Best and the Most wrench service for your money

Add the guaranteed repair-free housing, non-slip no-lock jaws, handy pipe scale, easy spinning adjustment and comfort-grip I-beam handle and you see why *genuine* RIDGID Pipe Wrench gives you the big value for your money. Buy the wrench you know you can depend on.

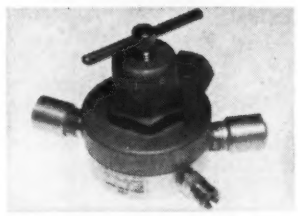
6" to 60"

Call your Supply House!

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-758 C1 on enclosed inquiry slip

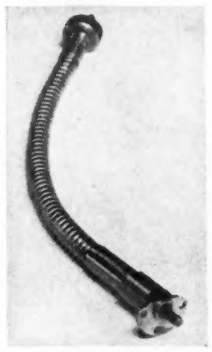
FLUID REGULATORS
output unaffected by inlet changes



Performance of a two-stage regulator is combined with the simplicity of a single valve in Series 200 fluid regulators. Output pressure is unaffected by varying inlet pressures, and flow capacity is unrestricted by extra valving. Regulators will not flutter or vibrate, even upon application of full cylinder pressure. Gages withstand overpressure. Units are also available in the 400 Series with conventional pressure gages. • **Kim Products, Inc.,** Box 1288, Lexington, Ky.

For more details circle NED-759 C1 on enclosed inquiry slip

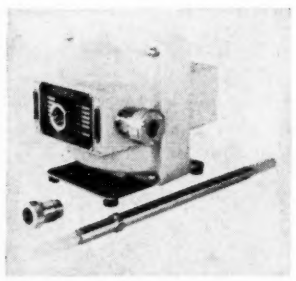
STAINLESS FLEXIBLE SHAFT
for high temperature applications



This stainless steel flexible shaft is intended for various high temperature applications, such as operating the fuel control on jet turbine engines. Food, chemical, and marine applications where corrosion is a problem are also served by the close tolerance shaft, available in any required length. Shaft has a 5/16-in. diameter core made up of layers of stainless wire, plus stainless steel outer flexible interlocked casing and end fittings. Deflection in radians per foot-pound can be held to close tolerance. • **Stow Mfg. Co.,** 26 Shear St., Binghamton, N. Y.

For more details circle NED-760 C1 on enclosed inquiry slip

FLOW METER
has 0-1 liter-per-minute range



The inert, nonwettable plastic flow tube featured in this flow meter is removable for sterilization. It has a stainless steel alignment sheath and is suitable for repeated steam autoclaving at 250° F, or sterilization by gas or germicide. Meter measures flows of pharmaceuticals, film emulsions, food ingredients, and other conductive materials. Liquid (conductor) moves through a magnetic field, generating a voltage proportional to rate of flow. Tapered and serrated ends of flow tube receive 3/16, 1/4, 3/8, or 1/2-in. ID flexible tubing. Unit has 0-1 liter per minute flow range, meters to ±1 per cent of scale, and repeats within ±0.5 per cent. • **Foxboro Co.,** 26 Neponset Ave., Foxboro, Mass.

For more details circle NED-761 C1 on enclosed inquiry slip

RIDGID Hex Wrench

gives you positive, time-saving grip on Hex and Square Nuts, Valve Packing Nuts, Unions, Gas Cocks

6 Sizes for 3/16" to 2¾" Nuts

See it and you'll immediately want this brand new type of wrench for your tool box. It's extra-useful on every job. No more skinned knuckles or rounded nut shoulders. Smooth jaws won't mar finish . . . go on easy, won't slip off. Multisided grip gives extra leverage. Stays to adjusted size. Narrow jaws for easy work in tight places. Six sizes—No. 9 (for 3/16" to 5/8" nuts), No. 11 (3/8" to 3/4" nuts), No. 15 (1/4" to 1" nuts), No. 17 (5/8" to 1¼" nuts), No. 25 (1" to 2" nuts), No. 35 (1" to 2¾" nuts).

Call your Supply House!

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-762 C1 on enclosed inquiry slip

ONLY THE LARGE IEE READOUT OFFERS ALL FOUR

Series 80000
PRICE COMPLETE
$33.00 QUANTITY PRICES ON REQUEST
Write today for complete specifications
Representatives in principal cities

Over 1000 firms throughout the world in just a few years prove unprecedented acceptance of IEE digital readouts.

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INDUSTRIAL ELECTRONIC ENGINEERS, Inc.
IEE 5528 VINELAND AVENUE NORTH HOLLYWOOD, CALIFORNIA

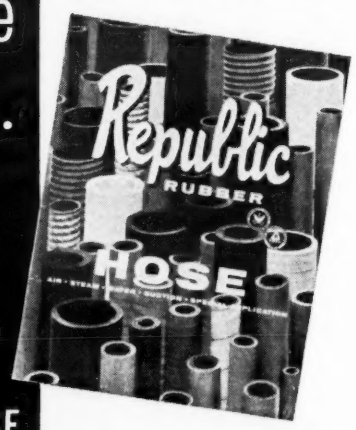
For more details circle NED-763 C1 on enclosed inquiry slip

SEND FOR YOUR COPY TODAY!

for the asking...

36 pages of useful information on RUBBER HOSE

all kinds... all sizes!



Includes the many different kinds of hose for air, steam, water, suction; data on couplings and how to apply them; reference tables; do's and don'ts for longer service life.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-764 C1 on enclosed inquiry slip

No More Knuckle-Busting!

New RIDGID No. 450

Portable Tristand Chain Vise

Large Easy-to-Operate Crank Handle Speeds All Pipe Work

Capacity ⅛" to 5"

Here's an extra efficient chain vise that gives you a complete, portable workbench. Saves time on every job. Large, easy-to-turn handle and tightening nut are anchored to base . . . can't pull out. Base, that extends forward for clear tool swing, has tool hanger slots, built-in pipe benders, rear pipe rest and adjustable ceiling brace screw. Snap chain holds legs and tray closed for easy carrying.

Call your Supply House!

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-765 C1 on enclosed inquiry slip

NEED HEAT?

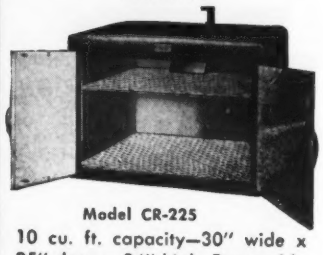
One of our 85 Standard Industrial Ovens will meet your needs.
BENCH • CABINET • WALK-IN TYPES.

For preparation of materials and chemicals for production.

On the production line for intermediate heating.

For baking-on finishes or drying.

GRIEVE-HENDRY OVENS



Model CR-225
10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan. Forced air circulation. Adjustable temperature control to 225° F. $121.50 f.o.b. Chicago
Quick quotations, prompt delivery, reasonable prices on Ovens built to your requirements.

Write for literature
GRIEVE-HENDRY CO., INC.
1353 N. Elston Ave., Chicago 22, Ill.

For more details circle NED-766 C1 on enclosed inquiry slip

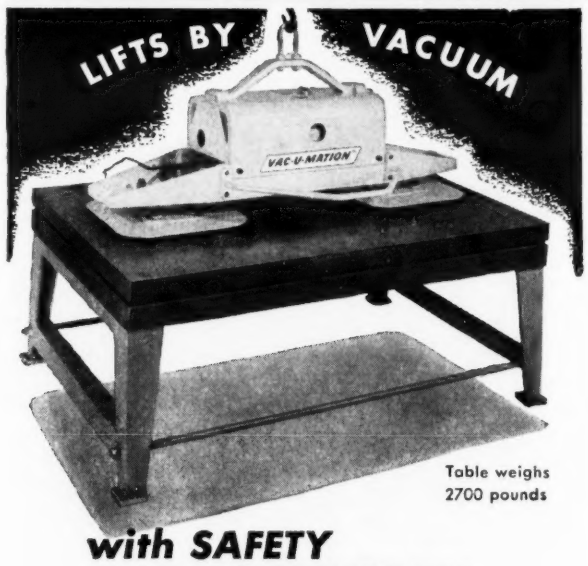


Table weighs 2700 pounds

with SAFETY and ECONOMY

VAC-U-MATION SHEET LIFTERS shorten man-hours, cut handling costs, pay for themselves F-A-S-T. Models available from manually-operated units to completely automatic models with capacities for handling up to 2,000 lbs.

4582

Write for NEW Catalog!

VAC-U-MATION DIVISION
4169 Ravenswood Avenue, Chicago 13, Ill.
District Offices: Detroit and Cleveland

For more details circle NED-767 C1 on enclosed inquiry slip

NEW Alnor PYROTROLLER® Series N

An electronic temperature controlling instrument that automatically controls the heat source to maintain a constant temperature within a set range.

Designed for temperature control on heat treating furnaces, ovens, heat sealing equipment, plastic moulding machines, cooking vessels, or any application where a precise uniform temperature must be maintained.

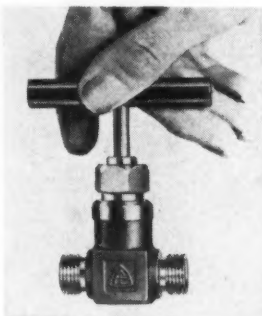
Various temperature ranges, −100° F. up to 3000° F. can be supplied to meet your requirements. Our engineering service is available for special applications.

Write for bulletin

Alnor INSTRUMENTS
ALNOR INSTRUMENT CO.
Division of
Illinois Testing Laboratories, Inc.,
Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.

For more details circle NED-768 C1 on enclosed inquiry slip

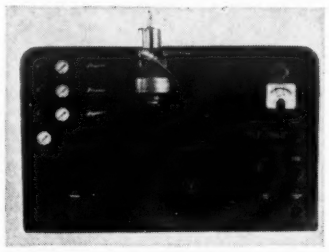
TUBING VALVE
for liquids, gases to 12,000 psi



Large port openings with minimum pressure drop are incorporated in the Space-Saver stainless steel tubing valve. Compact and light in weight, it is capable of handling liquids and gases at 12,000 psi. Ermeto type sleeve permits rapid installation without threading, swaging, flaring, welding, or use of special tools. Made of Type 316 stainless steel, it is offered in sizes for 1/8, 1/4, and 3/8-in. OD tubing. • **Autoclave Engineers, Inc.**, 2956 W. 22nd St., Erie, Pa.

For more details circle NED-769 C1 on enclosed inquiry slip

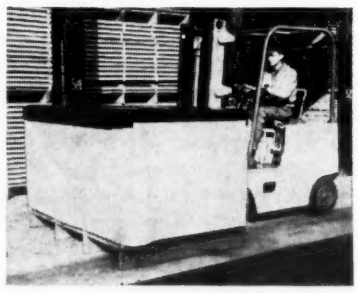
RESIN DISPENSING MACHINE
for two-component resin systems



Single shot volumes from a fraction of a a cubic centimeter to 20 cc are delivered by the electro-pneumatic Micro-Shot resin dispensing machine. Applicable to adhesive and casting jobs, it meters, mixes, and dispenses small quantities of two-component resins. Uses include end capping micro modules, transistors, resistors, capacitors, and other small volume components. Machine can be operated automatically, and can handle both filled and unfilled systems. It affords temperature control features on either resin or activator systems, or both. Air pressure forces resin and activator components from their separate pressure vessels. • **Automatic Process Controls, Inc.**, 1170 Morris Ave., Union, N. J.

For more details circle NED-770 C1 on enclosed inquiry slip

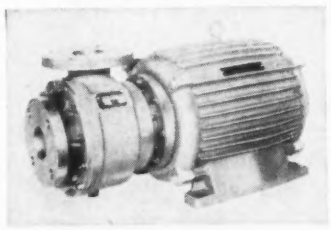
PLASTIC-BURLAP STORAGE COVERS
can be preformed to items covered



Burlap and polyethylene lamination process used in making Burlene outdoor storage covers assures resistance to water, tear, and puncture. Covers are available flat or preformed for the items to be covered, assuring tightness against dust. Used as outdoor covers for heavy machinery, firebrick, lumber, etc., covers have no stitching and will not develop leaks due to flexing or normal abrasion. Seams and hems are rubberized and heat-fused. Inner burlap ply prevents damage from sharp corners and protrusions. Covers withstand temperature extremes and remain flexible in subzero weather. Models are available with rust-proof spur grommet attached to the hem for anchoring to frames or stationary posts. • **Bemis Bro. Bag Co.**, 408 Pine St., St. Louis 2, Mo.

For more details circle NED-771 C1 on enclosed inquiry slip

CANNED MOTOR PUMP
pumped fluid cools, lubricates

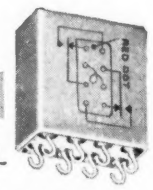


All lubricating and cooling functions are provided by the fluid being pumped by the Model 6222P-15S sealless canned motor pump. Equipped with a welded stainless steel clad rotor and stator, it is designed to allow the fluid to pass through the motor air gap. The motor is internally protected with a thermal overload switch. The 15-hp single-stage centrifugal pump develops a 200-ft head at a flow rate of 230 gpm. Pump castings are either passivated 300 Series stainless steel or Type 356-T6 aluminum alloy. An axial flow diffuser case assures radial hydraulic balance, regardless of flow rate. Axial hydraulic balance is maintained by close-fitting wear rings. Pump is designed for all fluids, including red and white fuming nitric acid and hydrazine. • **J. C. Carter Co.**, 671 W. 17th St., Costa Mesa, Calif.

For more details circle NED-772 C1 on enclosed inquiry slip

for long-life operation despite extreme temperatures, heavy shock, severe vibration...use the

CLARE Type F subminiature crystal can RELAY



ACTUAL SIZE

Buy from your nearby CLARE Distributor

The CLARE Type F Relay is hermetically sealed, extremely fast, and more than moderately sensitive. No bigger than a postage stamp, it is capable of long-life operation under a wide variety of contact loads. With contacts rated at 3 amperes, the Type F has proved its usefulness to advanced designers as an excellent component for low level circuit applications. Terminal arrangements are nicely suited to 2/10 inch grid spacing. The relay is available in a wide variety of mounting designs.

Order Type F Relays and such other CLARE components as Mercury-Wetted Contact Relays, Stepping Switches, CLAREED relays and other standard CLARE relays from your nearby CLARE Distributor.

IMMEDIATE DELIVERY AT FACTORY PRICES

When standard CLARE Relays or switches meet your needs, distributor service saves you time, costs you no more. Order CLARE relays along with other components.

Authorized Distributor CLARE RELAYS AND RELATED COMPONENTS

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Avnet Electronics Corporation
70 State Street, Westbury, L. I., New York
Electronic Wholesalers, Inc.
1301 Hibiscus Boulevard
P. O. Drawer 1655, Melbourne, Florida
Electronic Wholesalers, Inc.
61 N.E. Ninth Street, Miami 32, Florida

CENTRAL
Relay Sales, Inc.
P. O. Box 186, West Chicago, Illinois
Srepco, Inc.
314 Leo Street, Dayton 4, Ohio
Pioneer Electronic Supply Company
2115 Prospect Avenue, Cleveland 15, Ohio
M G Electronics & Equipment Co.
201-3 South 18th Street, Birmingham 3, Alabama

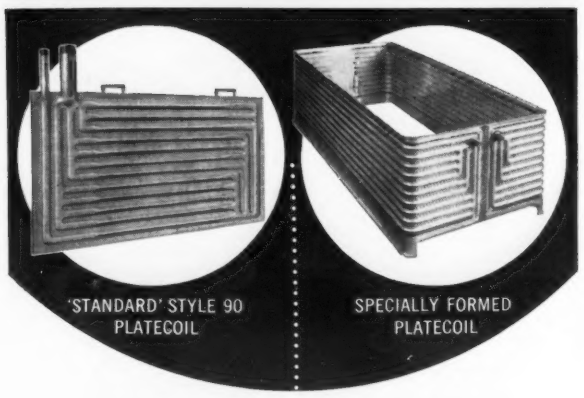
SOUTHWEST
Engineering Supply Company
6000 Denton Drive, Dallas 35, Texas
Harrison Equipment Co., Inc.
1422 San Jacinto St., Houston 1, Texas
Busacker Electronic Equipment Co., Inc.
1216 West Clay St., Houston 19, Texas
Radio Specialties Co., Inc.
6323 Acoma Road, S. E., Albuquerque, New Mexico
Radio Specialties Co., Inc.
209 Penn Avenue, Alamogordo, New Mexico

PACIFIC COAST
Puget Electro Products
3028 First Avenue, Seattle 1, Washington
Bell Electronic Corporation
306 E. Alondra, Gardena, California
Bell Electronic Corporation
1070 O'Brien Drive, Menlo Park, California

C.P. Clare & Co., 3101 Pratt Blvd., Chicago 45, Illinois

C.P. CLARE & CO.
Relays and Related Control Components

For more details circle NED-773 C1 on enclosed inquiry slip



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WRITE FOR NEW BULLETIN P57

PLATECOIL DIVISION, TRANTER MANUFACTURING, inc.
Lansing 9, Michigan

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With New McGILL Heavy Duty *CAGEROL*® Cage Type Needle Roller Bearings

You need CAGEROL bearing performance if higher speeds and increased misalignment have prevented the utilization of needle bearing load capacity in your applications. CAGEROL bearings can deliver up to ten times more expected life where misalignment and increased speeds exceed the capacities of ordinary end guided needle bearings. McGill construction features tapered retainer pockets for balanced roller guidance, crowned rollers, and black oxide retainer finish. CAGEROL bearings are interchangable with all heavy duty needle roller bearings — with or without inners in two bore sizes.

Write for helpful Bearing Handbook No. H-54-C for complete data

engineered electrical products McGILL® *precision needle roller bearings*

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.

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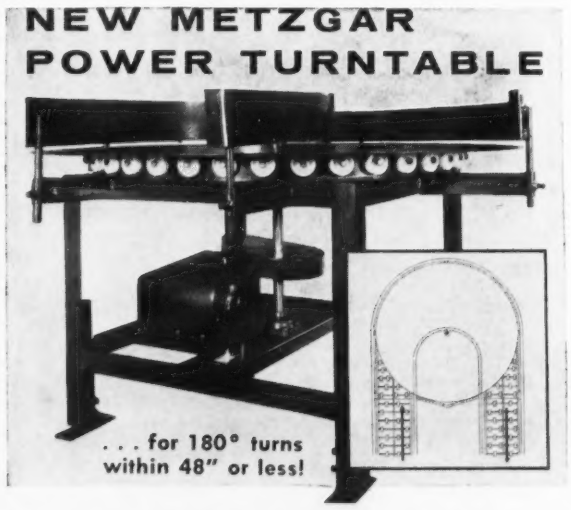
NEW METZGAR POWER TURNTABLE



• Motor-driven, circular steel table rides noiselessly on bed of Metzgar Nylo wheels • Can be equipped with single or multiple entry and departure points for any turn or turns up to 180° • Steel guide rails to maintain alignment • Costs much less than power belt or live roller installation effecting same degree of turn • Standard table diameter 48" — smaller or larger models to your specs.

SEE YOUR METZGAR REPRESENTATIVE OR WRITE FOR FULL DETAILS

METZGAR CONVEYOR CO.
416 Douglas St. N.W., Grand Rapids 4, Mich.

WHEEL & ROLLER GRAVITY CONVEYORS • LIVE ROLLER CONVEYORS
POWER BELT CONVEYORS • SWITCHES • ACCESSORIES

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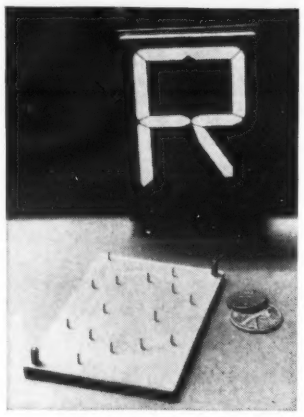
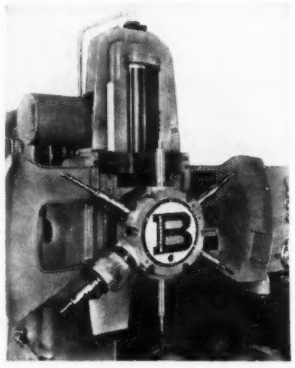
LARGE READOUT LAMPS operate electroluminescently



Readable at distances up to 150 ft, Rayescent readout lamps display letters and numbers by electroluminescence in various types of indicators, panels, and boards. Parallelogram - shaped lamp measures 3 5/16 x 4¾ in. Characters are formed by energizing specific segments of 14-segment alphabet type or 10-segment numeric type lamps, operated at either 240 or 460 v, and at 60 or 400 cps. Switching to form various characters is accomplished with step relays, rotary switches, solid state or electromechanical devices, or other means. Contact pins are molded into the back. Color is a highly visible green. Price is $25 or less per lamp. • **Westinghouse Electric Corp.**, Lamp Div., MacArthur Avenue, Bloomfield, N. J.

▲ For more details circle **NED-777 C1** on enclosed inquiry slip ▲

TURRET DRILLS speed, feed, depth of cut are tape controlled through a 3-axis system

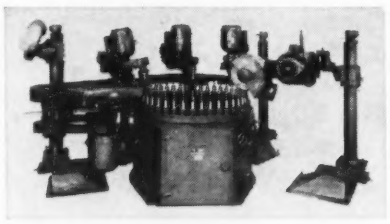


Depth of cut of each spindle, rapid traverse length, and selection of feeds and speeds are controlled by a three-axis tape control system in all Burgmaster six and eight-spindle turret drilling machines. Control affords automatic machining with X-Y axis table positioning and simultaneous Z-axis control of tool penetration. Thus, a given spindle can be used to machine holes of varying depths at different work positions.

Drills can be ordered with G-E, Hughes, Warner & Swasey, Westinghouse, Bendix, Rheem, Sperry, and Norden depth controls. The G-E system on drill shown employs a selsyn box transducer and precision rack and pinion mounted on the hydraulic feed drum column to produce feedback of spindle position. Spindle depth can be located within ±0.001 in. and is repeatable within ±0.0005 in. Any one of 99 feeds from ¼ to 50 ipm can be chosen. Taped speed selection affords choice of one of seven speeds in 165-2400, 250-3600, and 375-4500 rpm ranges. • **Burg Tool Mfg. Co.**, 15001 S. Figueroa St., Gardena, Calif.

▲ For more details circle **NED-778 C1** on enclosed inquiry slip ▲

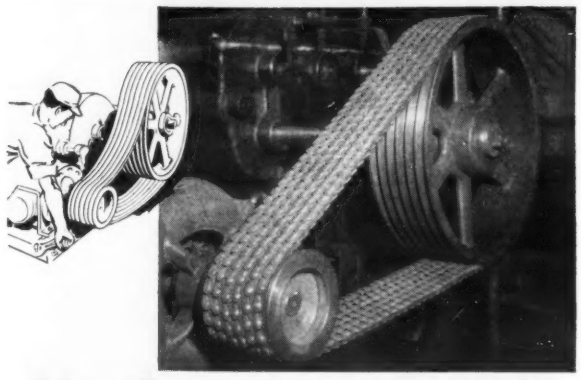
ROTARY FINISHING MACHINE combines index and continuous drives on 7, 8, or 12 stations



Polishing and buffing operations on a variety of parts on both long and short-run jobs can be performed on this automatic finishing machine which is convertible from rotary indexing to continuous rotary motion. Changeover requires less than 1 min. Machine consists of a series of easy replaceable cartridge type spindles mounted on a rotary table. Individual drive motors for the geneva index drive, the continuous drive, and the spindle drive are variable to suit the job. A timer control permits variable index speeds when required.

Continuous table drive and spindle drive are equipped with a 3:1 ratio variable speed unit and safety limit switches. A synchronized air lift can be incorporated to lift the polishing and buffing heads during the index cycle. Machine with seven, eight, or twelve stations has a diameter of 5½, 8, or 10 ft, respectively. Number of spindles can be varied to suit the job requirements. Polishing and buffing are performed by separate adjustable lathes around the periphery of the rotary table. • **Acme Mfg. Co.**, 1400 E. Nine Mile Rd., Detroit 20, Mich.

▲ For more details circle **NED-779 C1** on enclosed inquiry slip ▲



Veelos stays TIGHT

You never have to tilt or reset a motor, or tear down outboard bearings to replace a set of v-belts, when Veelos is installed on a drive.

Veelos stays tight—maintains the right tension to operate your machines at top efficiency. And, if adjustment of an individual belt should become necessary, all you do is add or remove a link or two—a job that takes minutes instead of hours.

With unique Veelos link construction, you get uniform power transmission, no slippage, no wasted power, no uneven belt and sheave wear. Get the full story of how Veelos-equipped drives assure maximum machine operation—*send for a free Veelos Data Book.*

VEELOS® THE BALANCED LINK V-BELT

MANHEIM Manufacturing & Belting Company Manheim 4, Penna.

There's no substitute for quality! Insist on *genuine* Veelos—made only by Manheim.

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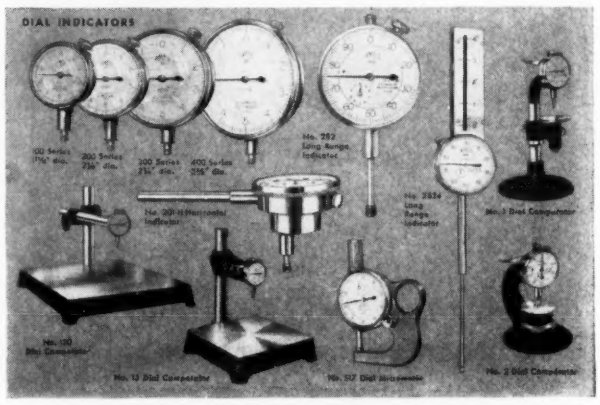
AMEs *Masters of Measurement*



DIAL INDICATORS AND GAUGES

Use Them for Checking: taper, height, depth, flatness, roundness, straightness, thickness, diameter, length and size.

Features Include: easy-to-read dials, unbreakable crystals, forged cases, backs and wheel support, contour-lapped pinion teeth.

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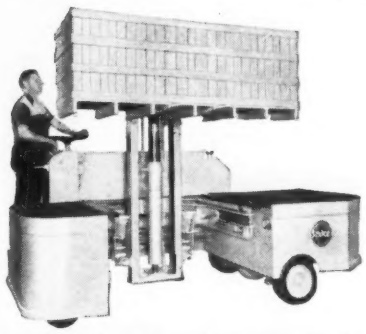
BAKER *Traveloader*®



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OTIS ELEVATOR COMPANY
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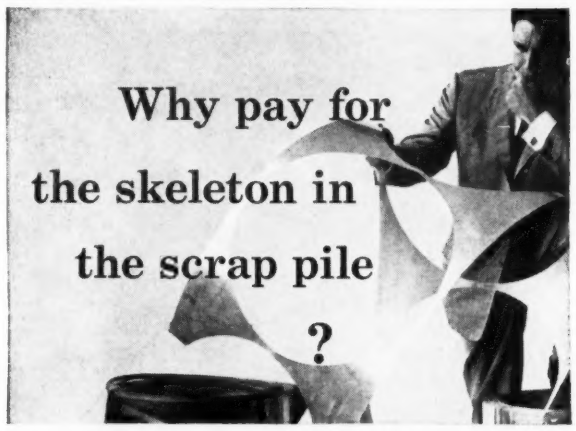

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When you stamp your own aluminum circles or irregular blanks, up to 25% of coil weight is scrap. Eliminate this waste material handling problem—plus labor of blanking—by buying circles or blanks direct from Fairmont. Our unduplicated, 30-year stock-pile of dies will probably fit your needs. Or—we can save labor, material for you by blanking from your dies in our plant.

For facts, figures about Fairmont's Custom Blanking Service, call the Fairmont office in your area. Or write *Vice-President, Sales, Dept. 36C, Fairmont Aluminum Company, Fairmont, West Virginia.*

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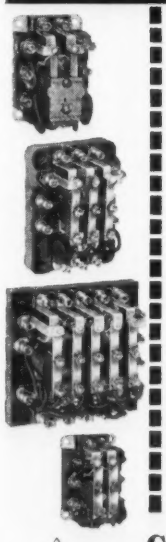
Dunco means relay reliability!

MIDGET RELAYS you can depend on!



Throughout the years, Dunco Midget Relays have rung up a remarkable record for dependability on every type of application within their scope. Standard coil and contact arrangements cover practically any need for control circuit applications or for operating motors, heaters, lights and other small auxiliary equipment. No AC hum.

1- to 3-pole combinations. Coils to 230 V. 60-cycle AC or 125 V. DC. Standard voltages: 6, 12, 24, 115 and 230. Contacts rated 6 amps. @ 115 V. AC or 24 V. DC; 3 amps. @ 230 V. AC or 0.5 amp. @ 115 V. DC. High-current types available up to 15 amps. @ 115 V. AC.

Write for Dunco Data Bulletins 2100, 2103 and 2118.

STRUTHERS-DUNN *Inc.*
PITMAN, N. J.
WORLD'S LARGEST ASSORTMENT OF RELAY TYPES

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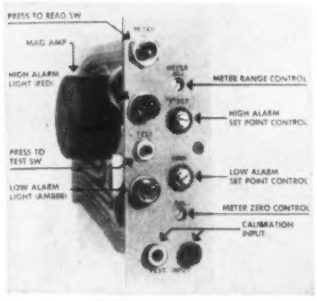
TEMPERATURE MONITOR provides visual and audible alarms



Over-limit temperature conditions are sensed by the Magne-Alarm solid state temperature monitoring device which provides both visual and audible alarms. This fail-safe unit uses a bistable magamp as a high gain amplifier, sensing element, and output driver to immediately indicate critical deviations from set limits. Provision is made for operating external control devices. Monitor is for use with thermocouples, resistance thermometers, thermistors, and strain gage inputs. Each input is continuously and individually set and monitored and has its own alarm circuit. Cost is about $125 to $200 per channel. Operation is on 105 to 125 v, 58 to 60 cps. • **San Diego Scientific Corp.**, 3434 Midway Dr., San Diego 10, Calif.

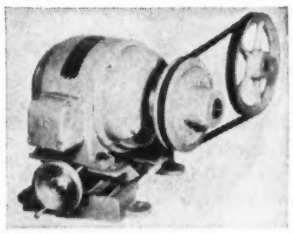
▲ For more details circle **NED-786 C1** on enclosed inquiry slip ▲

TOWEL DISPENSER delivers 5 clean for 5 soiled

In less than 17 sec this improved Texel automatic towel dispenser will automatically dispense a bundle of five clean industrial wiping towels upon accepting the same number of used cloths. A counter shows the exact number of used towels deposited, making inventory control automatic. Towel loss, pilferage, and hoarding are minimized. Dispenser occupies a 30 x 30-in. floor space and stores 1000 clean folded towels. Safety switches prevent trouble in case of short circuit. When machine is empty, its receiving section will not accept soiled towels. A bomb-type fire extinguisher is mounted inside the vented cabinet. • **Industrial Wiping Cloth Co.**, Cleburne, Tex.

▲ For more details circle **NED-787 C1** on enclosed inquiry slip ▲

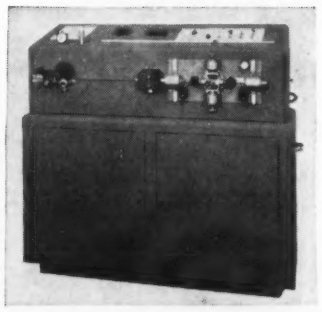
ADJUSTABLE MOTOR BASES design permits angular positioning



Model MB-11 and MB-12 adjustable motor bases are teamed up with standard M-type spring-loaded variable speed sheaves to provide a complete drive for low-speed uses in capacities from ¾ to 10 hp. Other sheaves with equal linear motion of both faces can be employed. Speed variation is handwheel controlled, although remote control can be provided. Design permits bases to be used in angular position to maintain proper belt alignment. Slides are easily cleaned and lubricated. • **Speed Selector Inc.**, Box 312, Chagrin Falls, Ohio.

▲ For more details circle **NED-788 C1** on enclosed inquiry slip ▲

AUTOMATIC WIRE STRIPPER cuts, strips at 8000 pieces/hr



Quick-change devices greatly reduce setup time of model 810A automatic wire stripper which will cut and strip 32 to 12 AWG wire in lengths from 1 in. to 300 ft at speeds to 8000 pieces per hour. These include a dial indicator on the measuring device, a slide lock to hold feed rolls in place on keyed shafts, quick-release clamps to hold strip assemblies in place, a switch-operated air valve, and an air-operated wire straightener. Unit will strip Teflon, glass fiber, asbestos, and Kel-F as well as PVC, rubber and other soft insulations. Although designed for single conductor wire, it will also strip coaxial cable and certain sizes of rip cord. • **Eubanks Engineering Co.**, 260 N. Allen Ave., Pasadena, Calif.

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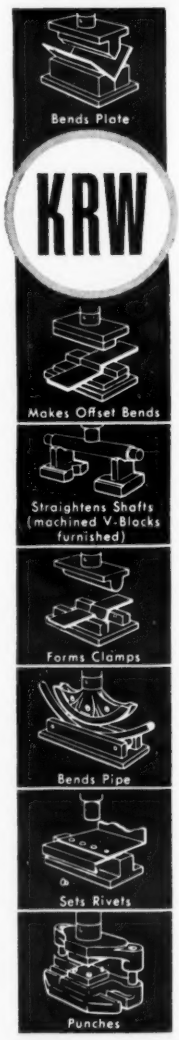
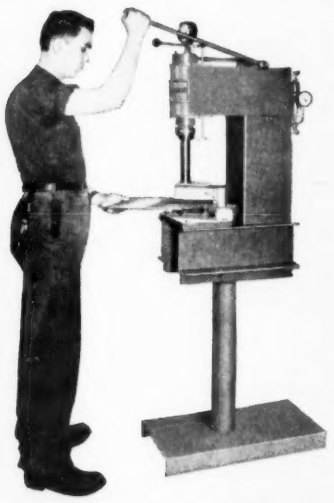


NEW!

10-TON HYDRAULIC PRESS



PRICE (without floor stand) **$352.00** f.o.b. Arcade, N.Y.
Floor Stand ..... $72.00 f.o.b. Arcade, N.Y.

A LOW-COST **FAST-ACTING** "JACK-OF-ALL-JOBS"

Mighty Mite That's Mighty Useful: This KRW 10-ton Bench Arbor Air-Oil Hydraulic Press does an almost limitless number of jobs that need a "squeeze" (up to 10 tons). In many cases, dies can be readily improvised from scrap steel.

And Mighty Speedy, Too! Just push the hand lever up . . . *Pff-ft!* Air actuated, the ram comes down to meet the work in a fraction of a second. Then pull the lever down to apply hydraulic pressure to the work. The job is done in a jiffy. Flip the pressure release knob at the front of the machine and the ram is spring-returned to top position. *You're ready to go again!* This new press can be hand operated at more than 20 strokes per minute. To put it in operation, all that's needed is a shop air supply of 50 psi.

Want More Facts? Mail the coupon below for detailed information on this machine as well as other KRW hydraulic shop presses (motor driven and hand operated, 25 through 150-tons).

K. R. WILSON, INC.
1228 MAIN STREET, ARCADE, N. Y.
MAIL illustrated bulletins on KRW Motor-Driven and Hand-Operated Shop Presses to us, without obligation.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle **NED-791 C1** on enclosed inquiry slip ▲

Cut ANY Shape in Metal...

with a BEVERLY THROATLESS SHEAR!

- Capacities to 3/16" in mild steel
- Make clean, knurl-free cuts in any metal to capacity
- High Carbon High-Chrome Blades
- Built to last a lifetime

Here's What a Beverly Can Do!

Cuts made in 18 ga. metal with Model B-1

Model B-3 with Ball Bearing Hold Down

Beverly Shears are the most versatile metal shearing tools you can use. Unique shoulder design permits any cut . . . rack and pinion gives great power with little effort. Alloy steel body for maximum rigidity and strength. Made in 4 models.

Write for illustrated circular —or see your Beverly Distributor.

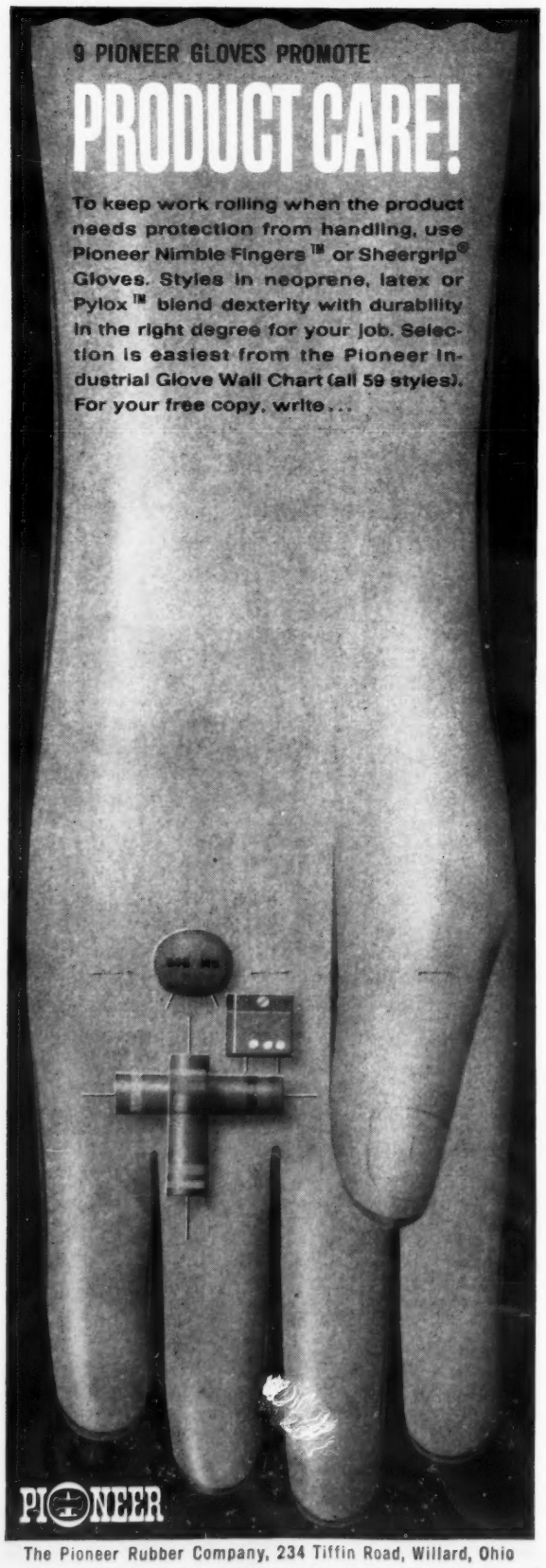
Beverly SHEAR MFG. CO.
3016 W. 111th Street Chicago 55, Ill.

For more details circle NED-793 C1 on enclosed inquiry slip

9 PIONEER GLOVES PROMOTE

PRODUCT CARE!

To keep work rolling when the product needs protection from handling, use Pioneer Nimble Fingers™ or Sheergrip® Gloves. Styles in neoprene, latex or Pylox™ blend dexterity with durability in the right degree for your job. Selection is easiest from the Pioneer Industrial Glove Wall Chart (all 59 styles). For your free copy, write . . .

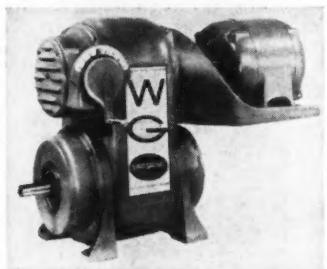


PIONEER

The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-794 C1 on enclosed inquiry slip

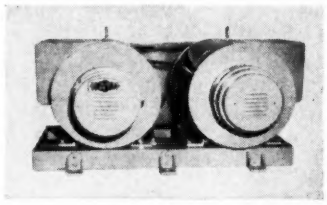
VARIABLE SPEED DRIVES
three sizes from 1 to 10 hp



Three sizes covering a range from 1 to 10 hp with speed variation ratios to 8:1 are offered in Vari-Master mechanical variable speed drives. Both dripproof and totally enclosed constructions utilize a standard NEMA C-face dripproof, totally enclosed, or explosionproof motor with shaft extension. A fan on the variable speed shaft cools the drive belt and a constant speed disc assembly is saddle mounted on its own bearings for vibration-free operation. The helical gear reducer is offered in double, triple, and quadruple step reductions, in both horizontal and vertical assemblies. Manual, pushbutton, or pneumatic controls are available. • **Western Gear Corp.**, Industrial Products Div., Box 126, Belmont, Calif.

For more details circle NED-795 C1 on enclosed inquiry slip

MOTOR GENERATOR SET
produces 1200-cps current



Illustrated 20-kw high frequency motor generator set is driven by a 40-hp synchronous motor with a positive, cog type, timing belt. The alternator rotor has 40 poles and produces 1200 cps at 3600 rpm. Field is controlled by an automatic voltage regulator. The alternator is equipped with a direct current exciter which supplies the necessary current to the rotor. Motor with its own direct current exciter is designed to use a conventional synchronous starter. Field can be controlled to produce a leading power factor. • **Kato Engineering Co.**, 1415 First Ave., Mankato, Minn.

For more details circle NED-796 C1 on enclosed inquiry slip

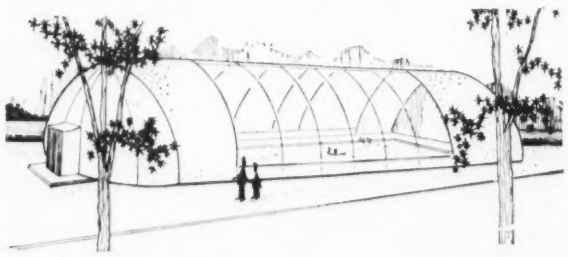
MINIATURE FLEXIBLE COUPLINGS
sizes from 5/8 to 1-5/16-in. OD

Expanded line of miniature flexible couplings includes 12 new models ranging from 5/8 to 1 5/16-in. OD with bore sizes from 0.0937 to 0.6875 in. Both pancake (shown) and split-hub type are offered and transmit 15 to 40 lb-in. torque at high speeds. Couplings absorb angular misalignment up to 7½ degrees, lateral misalignment up to 0.015 in., and axial movement up to 0.060 in. in a single unit. They dampen vibration, yet are torsionally rigid with no backlash. Modifications, such as shoulders for mounting gears or cams, can be provided. • **Dial Products Co.**, 19 Cottage St., Bayonne, N. J.

For more details circle NED-797 C1 on enclosed inquiry slip

AIR-SUPPORTED STRUCTURE
is kept inflated by a small blower

Exhibition hall, emergency shelter, warehouse, vehicle housing, construction shelter, and swimming pool covering are typical uses for the custom-made, all-



weather Sheltair air-supported structure. It is made of Armor Tite, a heavy vinyl-coated fabric which resists sun rays, oil, acid, mildew, and abrasion. Seams are electronically welded and windows are of clear vinyl. A small blower inflates and maintains the structure firmly enough to support the weight of snow and withstand winds up to 75 mph. Adjustable vents allow any degree of ventilation. Structure can be anchored to any base, is easily heated, and folds compactly for storage. • **Union Canvas Products**, 132 State Highway 17, Wood-Ridge, N. J.

For more details circle NED-798 C1 on enclosed inquiry slip

If you use stainless steel plate, this new booklet on Carlson services in stainless steel gives you worthwhile facts!

THIS new Carlson booklet, "Producing Stainless Steels . . . Exclusively," documents a unique, specialized service. Fully illustrated, it includes detailed sections on stainless steel plates, heads, forgings, special shapes, and other stainless products manufactured by Carlson.

Write for your free copy of the new Carlson booklet today.

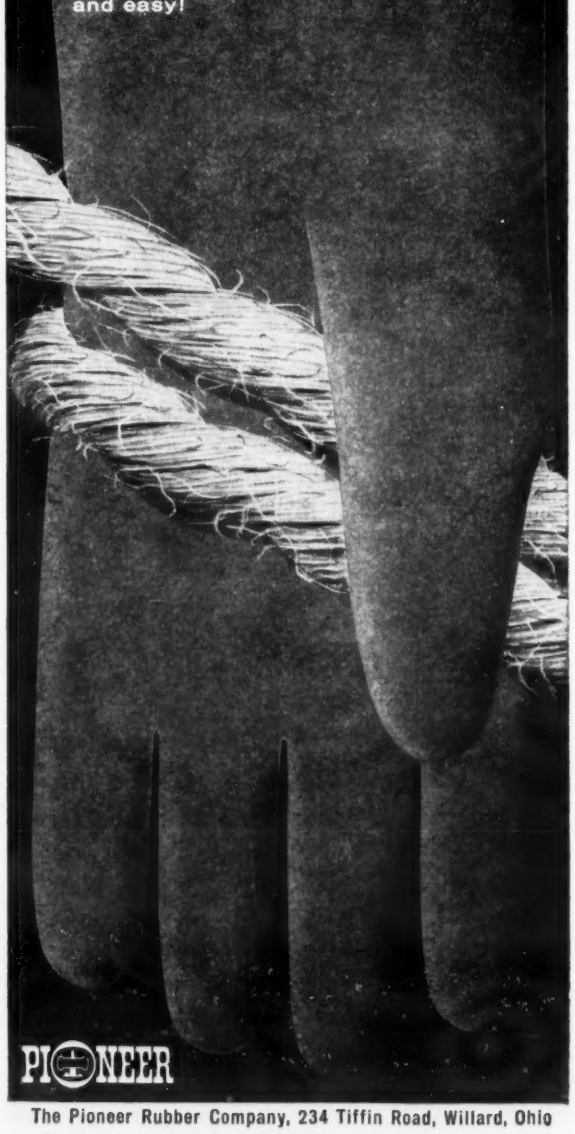
G.O.CARLSON Inc.
Producers of Stainless Steel
158 Marshallton Road
THORNDALE, PENNSYLVANIA
District Sales Offices in Principal Cities

For more details circle NED-799 C1 on enclosed inquiry slip

26 PIONEER GLOVES COMBAT

ABRASION!

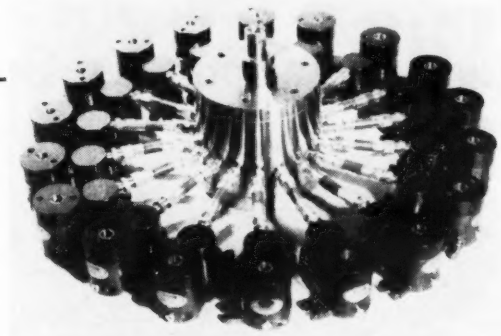
All 59 Pioneer Glove styles are job-smart; like Neoprene Coated "Pacemakers" and Pylox Coated "Stanflex" . . . built to give you better output with more work-hours per glove and more comfort-hours per worker. There are 26 different Pioneer styles especially for abrasion protection on heavy rough materials-handling jobs. Pioneer has the right glove for the job. You can easily select the right Pioneer glove for your job by sending for the Foolproof Pioneer Glove Selector . . . It's free . . . and easy!



PIONEER

The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-800 C1 on enclosed inquiry slip



REDMER

AIR CHUCK and ROTARY VALVE for FAST, MULTIPLE PRODUCTION

Redmer #000 Air Chuck mounts on all standard makes of rotary tables 16" in diameter or over. Can be used on tables 24" or over with standard REDMER chucks for greater holding power. Safely holds round, square or hex pieces. Using standard B & S Type collets eliminates fixture making.

Rotary valve available with required number of outlets and necessary off and on positions. Manufactured to specifications only as to diameter, height required and number of outlets.

Send for complete details, price list and complete catalog of all REDMER chucks.

REDMER AIR DEVICES INC.
P. O. Box 12229-7100—30th Ave., North
St. Petersburg 33, Florida

▲ For more details circle **NED-801 C1** on enclosed inquiry slip ▲

21 PIONEER GLOVES COMBAT

CHEMICALS!

There's a Pioneer glove to protect workers from chemicals, chemical burns or hand dermatitis. Of the 59 Pioneer Glove styles, 21 are designed to give long service in at least 103 basic oils, greases, acids, solvents and other chemicals. This includes all of the long-wearing Milled Neoprene Pioneer styles that bear this recognized Pioneer trademark.

STANZOIL PIONEER

PIONEER

The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio

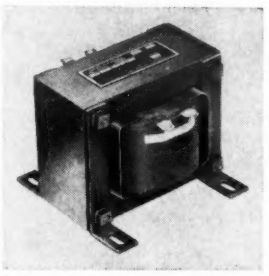
▲ For more details circle **NED-802 C1** on enclosed inquiry slip ▲

SELF-POWERED HORN
portable unit operates on Freon

Liquified Freon 12 in a disposable Energy Pak makes this portable warning and signalling horn completely self-contained. Safety yellow colored device is available with pushbutton or thumb lever action. Uses include sounding warnings or signals by work crews, plant watchman, and guards. Its 15-oz Energy Pak is safety-fused, will not explode, and is capable of producing 800 blasts. • **Ferrell Mfg. Co.**, Industrial Horn Dept., Groton, N. Y.

▲ For more details circle **NED-803 C1** on enclosed inquiry slip ▲

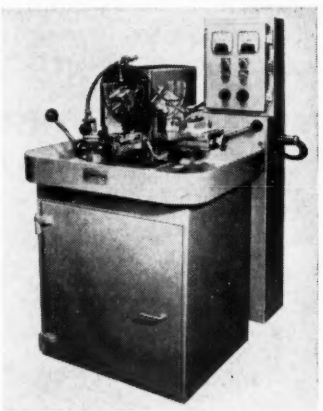
TRANSFORMERS
0.050 to 10-kva space-saving units



Less than average panel space is taken up by Type SXO low-cost transformers for industrial control circuits. They are also suited for use with rectifier and lighting loads and related applications. Series is made for 50 or 60 cycles in 15 different ratings from 0.050 to 10 kva. Units have wiring diagrams on the nameplate, slotted mounting feet, and screw-type terminals. All models meet or exceed NEMA standards. • **Hevi-Duty Electric Co.**, Transformer Div., 3002 W. Burleigh, Milwaukee 1, Wis.

▲ For more details circle **NED-804 C1** on enclosed inquiry slip ▲

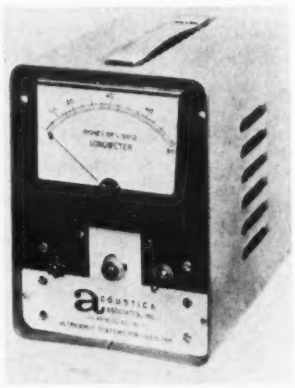
ELECTROLYTIC SHARPENER
for high speed twist drills



Reportedly three to seven times faster than conventional grinders, this Ampak electrolytic sharpener for high speed twist drills sharpens without generating heat. Precision drill point geometry is possible with a simple set-up of fixtures that can be made in seconds. Complex point shapes can be duplicated. It will develop all drill point angles from 90 to 180 degrees, lip relief angles from 0 to 20 degrees, and helix angles from 30 degrees positive to 30 degrees negative. It has a 1-hp motorized 300-amp electrolytic spindle, self-contained 8-v 300-amp dc power supply, voltage regulator, automatic visual overload alarm, and self-contained electrolytic fluid system. • **Connecticut Special Machine, Inc.**, Bridge Street, Winsted, Conn.

▲ For more details circle **NED-805 C1** on enclosed inquiry slip ▲

LIQUID LEVEL GAGE
remote reading ultrasonic type



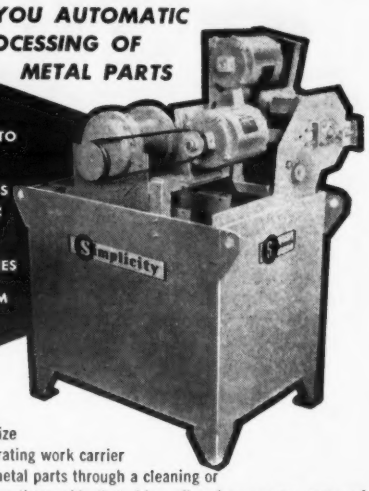
Transistorized Sonometer liquid level gage is a direct reading indicator system for measuring liquid level within containers. The remote reading unit readily gages most homogenous, relatively suspension-free liquids ranging from low temperature cryogenics to highly corrosive acids at elevated temperatures. Sonar techniques are utilized in the equipment, several types of which are available for use as liquid level indicators or for integration into process control systems. The most basic form of read-out consists of a meter calibrated in feet, inches, and gallons as needed. A second read-out provision may be in the form of 0 to 100 mv dc, directly in proportion to level. • **Acoustica Associates, Inc.**, 10400 Aviation Blvd., Los Angeles 45, Calif.

▲ For more details circle **NED-806 C1** on enclosed inquiry slip ▲

NEW JUNIOR SIZE VIBRA-WASHER

GIVES YOU AUTOMATIC PROCESSING OF METAL PARTS

LABOR SAVING
READILY ADAPTABLE TO MANY OPERATIONS
NO NESTING OF PARTS DURING CLEANING OR CONDITIONING CYCLE
ADJUSTABLE CAPACITIES
ELECTRIC—GAS—STEAM HEATING ELEMENTS



The new Simplicity Junior Size Vibra-Washer employs a vibrating work carrier that automatically conveys metal parts through a cleaning or conditioning bath. It cleans so thoroughly that chips, oil and grease are removed from even blind or slotted openings; cleans so gently even the most delicate threads or flanges are not harmed.

If you have a tough cleaning or conditioning job, Simplicity Engineering Company can help. For information, write or call the Industrial Washer Division.

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Simplicity TRADE MARK REGISTERED

ENGINEERING COMPANY • DURAND 15, MICH.

FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

▲ For more details circle **NED-807 C1** on enclosed inquiry slip ▲

5 PIONEER GLOVES COMBAT **FATIGUE,**

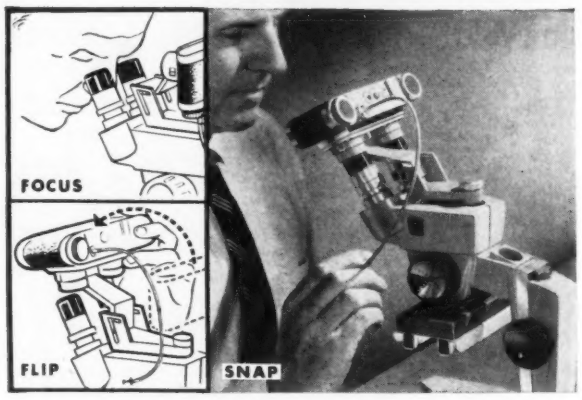
HEAT, COLD!

When the worker calls for hand comfort, you call for one of the 5 Pioneer lined, liquidproof glove styles. They're lined against temperature extremes and coated with neoprene or Pylox™ against liquid penetration. See these and 54 other glove styles in your free copy of the Pioneer Industrial Glove Catalog. For your free copy write...

PIONEER

The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio

▲ For more details circle **NED-808 C1** on enclosed inquiry slip ▲



AO OFFERS EASY, LOW-COST STEREO PHOTOMICROGRAPHY

This new Stereocamera-Viewer outfit provides everything needed to photograph a magnified specimen image in life-like three-dimension. Included are a 35mm Graflex Stereocamera, an adapter-mounting unit with special compensating prisms and a full-size Graflex Stereoviewer. Designed exclusively for use with the AO Spencer Cycloptic Stereoscopic Microscope, the camera and adapter mount quickly and easily.

FOCUS the specimen sharply, **FLIP** the mounted 35mm Stereocamera into position over eyepieces and **SNAP** the magnified 3-D image. That's all there is to it. Camera swings back, out of the way, until you are ready for the next photo. With the Stereoviewer you can review your findings anytime . . . anywhere. This easy-to-use 3-D photomicrographic package available only from American Optical.

American Optical Company
SPENCER Instrument Division • Buffalo 15, New York

For more details circle NED-809 C1 on enclosed inquiry slip

***Handy* Tube Bender**

Smoothly Bends ANY Pipe or Tubing

3/8" to 1 1/8" O. D.

Just a twist of the wrist assures perfect, even bends . . . right-angle, any angle, U and offset—every time. Eliminate need for els. No more guesses—no kinks! Save enough time, labor and money on ONE job to pay for your Handy Tube Bender.

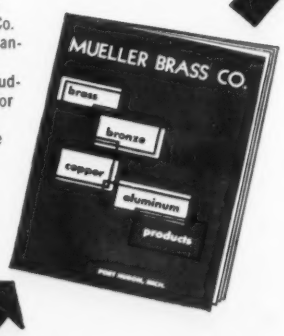
See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.
480 N. Willow Rd. • Evansville, Ind.

For more details circle NED-810 C1 on enclosed inquiry slip

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.

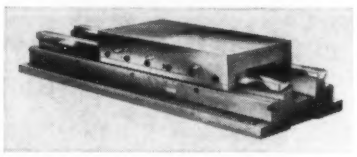


314

Please send me Mueller Brass Co. Manual No. FM 3017.
Name_____
Firm_____
Address_____
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

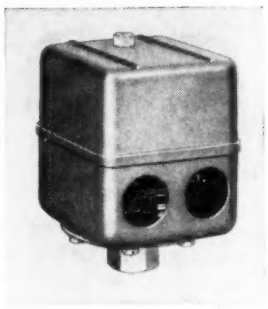
SLIDE ASSEMBLIES
made in 33 standard sizes



Time and cost savings are realized in building up special production equipment by incorporating these precision slide assemblies with hardened steel ways. They are available in 33 saddle-and-base size combinations. Saddles are made in 9, 11, and 15-in. widths. In each width four saddle lengths and three base lengths are offered. Standard saddle working surfaces range from 9 x 9 in. to 15 x 60 in. Maximum stroke length is 45 in. Saddle and base are made from heat treated, close-grained gray iron. Optional built-in equipment includes air or hydraulic power cylinder, Acme type lead screw, electric cycle controls, one-shot lubrication system, way wipers, and way covers. • **Russell T. Gilman, Inc.**, 623 Beech St., Grafton, Wis.

For more details circle NED-811 C1 on enclosed inquiry slip

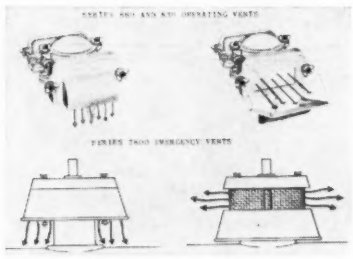
PRESSURE SWITCH
rated at 1½ hp, 150 psi maximum



Contacts which close at the low pressure setting, close at the high pressure setting, or one normally - open and one normally-closed contact are available in these corrosion resistant pressure switches for air and water systems. Offered in two enclosure styles, they are rated 1½ hp and 150 psi maximum. Pressure wire connectors, fine silver contacts, no-drift pressure settings, snap action, optional pulsation orifice, and optional hand disconnect are incorporated. When used on air compressors, a mechanically operated unloader valve is available to remove high pressure air between the cylinder head and check valve. • **Furnas Electric Co.**, 1009 McKee St., Batavia, Ill.

For more details circle NED-812 C1 on enclosed inquiry slip

SAFETY TANK VENTS
discharge ignited vapor horizontally

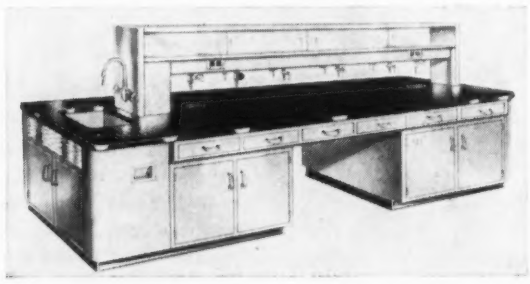


These operating and emergency vents ensure a horizontal discharge of ignited flammable liquid vapors and prevent localized flame impingement on the tank structure. Under normal (no-fire) conditions, the weather hoods protect the tank contents from rain, snow, airborne contaminants, and dirt because their opening is downward. The aluminum weather hood is secured to the vent body with a heat-sensitive alloy which melts at a predetermined temperature so that it can drop free if escaping vapors ignite. • **Protectoseal Co.**, 1920 S. Western Ave., Chicago 8, Ill.

For more details circle NED-813 C1 on enclosed inquiry slip

LABORATORY TABLES
wall and center models offered

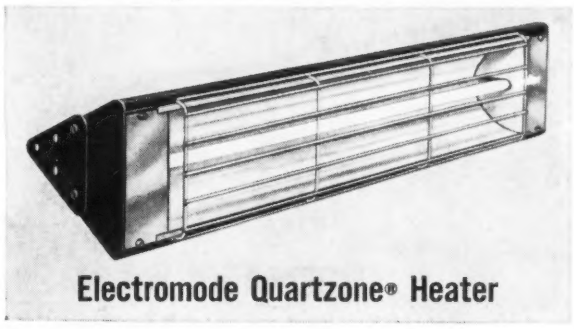
Wide variety of sectional units and service arrangements is available in Modulab laboratory tables for utility and convenience. Tables are offered in both



wall and center-of-the-room models and have a modern architectural touch in the drawer assembly which extends beyond the plane of the table. All corners are rounded. An enclosed chemical reagent shelf is provided for storing reagents used in daily experimental work. Service piping is contained in the self-supporting reagent rack assembly. • **Metalab Equipment Co.**, 270 Duffy Ave., Hicksville, N. Y.

For more details circle NED-814 C1 on enclosed inquiry slip

Now...Spot Electric Heating Indoors or Out



Electromode Quartzone® Heater

- **Infrared electric heating thoroughly covers selected area, indoors or out—warms people and objects, not the air. For watchmen, dock workers, etc.**
- **Quartz tube, even at red heat, withstands shock of rain, snow.**
- **Efficient aluminum reflector can be readily removed for cleaning.**
- **Select from 1000, 1500, 2000, 3000 or 4000 watts.**
- **Available in 120, 208, 240 or 480 volts.**

For more information, write:

®Electromode

Dept. NED-61, 570 Culver Road, Rochester 3, New York

For more details circle NED-815 C1 on enclosed inquiry slip

R/M CAPABILITY PRODUCES

VALVE STEM PACKINGS

for temperatures to 1150°F

Use R/M No. 325 for service on lines handling superheated steam, hot gases and oils. This R/M High Temperature Valve Stem Packing embodies all these features:

- **AAA grade Inconel-wire-inserted asbestos yarns braided over a plastic core**
- **A core which contains pure, long-fiber asbestos, graphite and other ingredients**
- **Free of all organic materials that tend to carbonize at high temperatures**
- **Little volume loss and little adjustment**
- **Contains inhibitors which combat corrosion after hydrostatic testing and during storage and help give long service life**

For detailed information about R/M High Temperature Valve Stem Packings, write for our new Mechanical Packings and Gasket Materials Catalog.

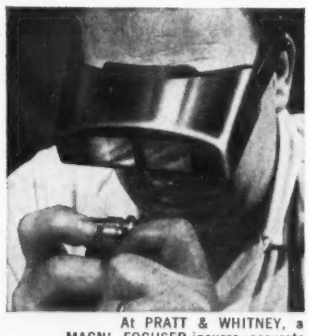
RAYBESTOS-MANHATTAN, INC.
RM PACKINGS
PACKING DIVISION, PASSAIC, N.J.
MECHANICAL PACKINGS AND GASKET MATERIALS

For more details circle NED-816 C1 on enclosed inquiry slip

Production UP

Inspection Errors DOWN

—when inspectors "SEE BETTER"®



At PRATT & WHITNEY, a MAGNI-FOCUSER insures accurate inspection of a precision part.

with MAGNI-FOCUSER 3-D BINOCULAR MAGNIFIERS

It takes more than just the human eye to accurately detect defects in a mass-produced product. That's why hundreds of plants manufacturing products ranging from jet planes to microscopic electronic parts insist that their inspectors wear **MAGNI-FOCUSERS.**

MAGNI-FOCUSER, the 3-D binocular magnifier with matched precision ground optical glass lenses, helps eliminate costly errors by providing needle-sharp, distortion-free magnification in the third dimension.

MAGNI-FOCUSER reduces eyestrain, leaves both hands free to work. May be worn with or without regular eyeglasses. Normal vision resumed by raising head slightly. Weighs only 3 ounces.

Get greater accuracy in your operation — send for **MAGNI-FOCUSER** on a 10-day trial without obligation! Immediate delivery. Three models — 1¾ magnification at 14", 2¼ at 10", 2¾ at 8". Only $10.50. Illustrated literature on request.

EDROY PRODUCTS CO.
Dept. B, 480 Lexington Ave.
New York 17, N. Y.

For more details circle NED-817 C1 on enclosed inquiry slip

"If you can't stand the heat —stay out of the kitchen"

MEYERCORD HEAT RESISTANT LINE OF DECAL TRANSFERS

H-R Heat Resistant

H-R-T Heat Resistant Tubes

S-H-R Sustained Heat Resistant

H-H-R High Heat Resistant

Ordinary Decals, when used as trademarks or operating instructions on products exposed to heat range of 150°F to 220°F will discolor, deteriorate and disappear.

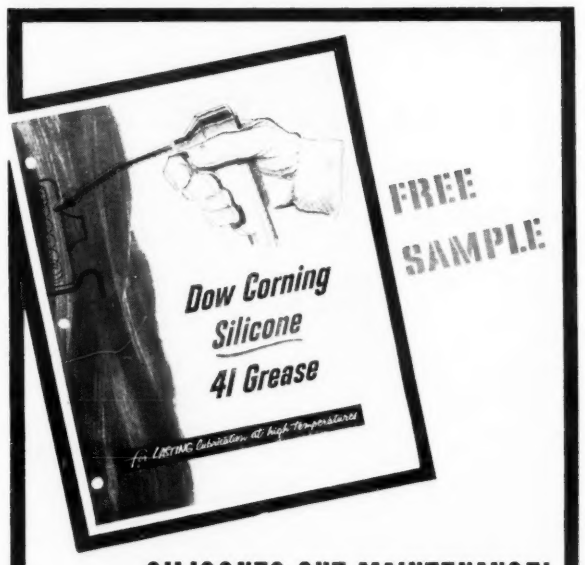
Meyercord's exclusive H-R line of transfers—Heat-Resistant—will withstand operating temperatures up to 1,000°F. Four different types of H-R transfers are available for the job.

Write for Technical Bulletin No. 600. For Heat-Resistant markings specify Meyercord's H-R line.

Write today . . . on company letterhead, please.

the MEYERCORD co.
Dept. C-316—5323 W. Lake Street, Chicago 44, Illinois

For more details circle NED-818 C1 on enclosed inquiry slip



SILICONES CUT MAINTENANCE!

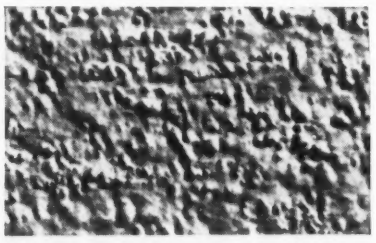
Dow Corning silicone lubricants stay on the job from —100 to 450 F . . . won't bleed and drip, won't oxidize in heat or stiffen in cold. Ideal for conveyor bearings, motor bearings . . . ball bearings in any use. Write today for FREE SAMPLE and literature. Dept. 5815a.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

For more details circle NED-819 C1 on enclosed inquiry slip

no slip
no slide
no skid



...with A. W. ALGRIP abrasive flooring

- complete safety . . . safe footing under most hazardous conditions—on flat or inclined surfaces.
- long life . . . patented process embeds abrasive to controlled depth for lasting safety.
- versatile flooring . . . can be used as independent flooring or as flooring overlay.
- unique material . . . world's only rolled steel abrasive floor plate.

Put your plant on a safe footing . . . with A. W. ALGRIP. Approved for safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

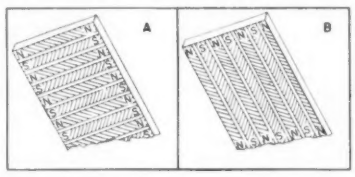
ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

For more details circle NED-820 C1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

FLEXIBLE MAGNETIC TAPE
also made with steel laminations on one or both sides of magnet

Magnyl flexible, continuous, and uniformly magnetic material is made of vinyl or rubber into which fine magnetic materials are distributed. It lends itself to use in many products where either spot or continuous magnetic effect is desired. In tape form it has a protected pressure - sensitive backing on the nonmagnetic side.



Material is also offered with a lamination of 0.002 or 0.003-in. steel to the nonmagnetic side to enhance its magnetic attraction by up to 50 per cent. A third form has Magnyl between two pieces of steel which act as pole shoes to produce a strong coercive force with a small segment of the material. Drawing shows two basically different pole arrangements: A, with alternating poles running horizontally across the tape width; and B, with poles running along the tape length. Various sizes are offered. • **Applied Magnetics Corp.**, 396 River Rd., Leeds, Mass.

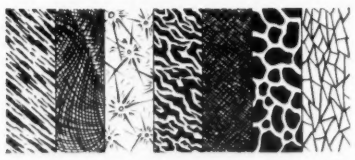
For more details circle NED-821 C1 on enclosed inquiry slip

HYDRAULIC FLUID
for extreme operating conditions

Proper operating viscosity is maintained by LE Brand hydraulic oil over a wide temperature range. This paraffin base fluid has high film strength to withstand extreme pressures in hydraulic systems. It has a high resistance to heat, oxidation, and foaming. • **Lubrication Engineers, Inc.**, 2709 Race St., Ft. Worth, Tex.

For more details circle NED-822 C1 on enclosed inquiry slip

EMBOSSING TECHNIQUE
for stainless steel and aluminum



Virtually any embossed design can be given to stainless steel, aluminum, and anodized aluminum shapes with new roll forming technique. Embossed patterns incorporated at only the cost of the embossing die do not hinder punching, notching, or cutting in the shape itself. Embossed shapes are particularly suitable where surface scratching is probable. • **Roll Formed Products Co.**, Box 418, Youngstown 1, Ohio.

For more details circle NED-823 C1 on enclosed inquiry slip

A. W. ALGRIP abrasive flooring

Bits of food fall on the floor of this food processor's freezer, but A. W. ALGRIP eliminates slipping and sliding . . . helps prevent accidents.

A. W. ALGRIP is produced by Alan Wood Steel Company under a patented process by which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

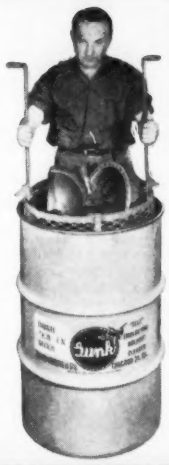
A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

For more details circle NED-824 C1 on enclosed inquiry slip

GUNK® Hydro-Seal economically strips paint from production rejects!

. . . eliminates hazard and expense of stripping paint with hot, caustic solutions — Gunk H.S. is *safe on all* metals. Just dunk; rinse with water. Available in open-head drums, with or without baskets; ideal for low-cost *cold immersion* process paint stripping . . . Removes grease and carbon tool Write for full details, *today*.



® Reg. trade mark

GUNK LABORATORIES, INC.
Gunk Chicago Co., River Forest, Illinois serving the Midwest and Southwest
Radiator Specialty Co., Charlotte, No. Carolina serving the East, Southeast and far West

For more details circle NED-825 C1 on enclosed inquiry slip

SOLVE YOUR STICKING, SEIZING, AND CLINGING PROBLEMS with... SLIDE

CLEAN
COLORLESS
NON-TOXIC

FAST
EASY
AEROSOL
APPLICATION

for
MACHINERY
KNIVES
PRESSES
GLUERS
SEALERS
CRIMPERS
HOT ROLLS
AND PLATES

When things stick, cling or seize — you're stuck. SLIDE can be your ace-in-the-hole. In packaging, printing, production of all kinds, SLIDE makes parts work or cut smoothly without gumming, discoloration, or toxic effect. Superior to anything on the market. Get un-stuck with smooth, slick SLIDE.

FROM YOUR INDUSTRIAL DISTRIBUTOR OR ORDER DIRECT

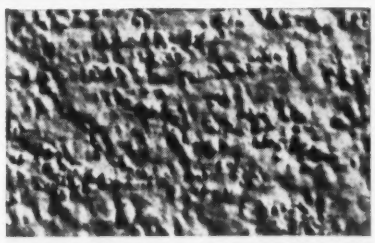
GIANT 24 OZ. CAN

PRICES SHIPMENT SAME DAY
SINGLE CAN . . . $2.00
1 to 5 dozen . . 18.47 per doz.
6 to 11 dozen . 17.54 per doz.
12 to 23 dozen . 16.66 per doz.
24 doz. or more . 15.00 per doz.
FREIGHT PREPAID

PERC E. HARMS CO.
1739 Harding Road • HIllcrest 6-7244 • Northfield, Illinois
A complete line of INDUSTRIAL AEROSOLS

For more details circle NED-826 C1 on enclosed inquiry slip

safety for sure



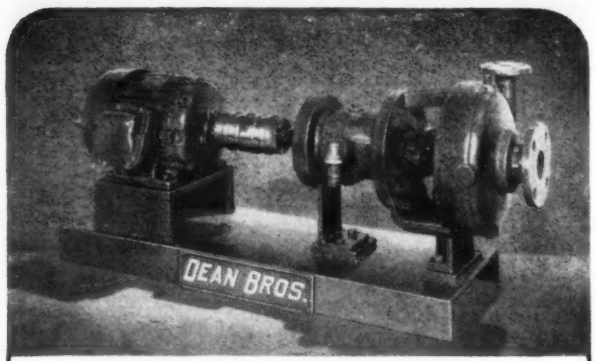
...with A.W. ALGRIP abrasive flooring

- eliminates slipping . . . process embeds abrasive in tough steel plate for lasting safety
- assures safety . . . safe footing under most hazardous conditions—on flat or inclined surfaces
- versatile flooring . . . use it as independent flooring or as flooring overlay

Put your plant on a safe footing . . . with A. W. ALGRIP—world's only rolled steel abrasive floor plate. Approved for safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Manufacturer of A. W. Super Diamond Rolled Steel Floor Plate

For more details circle NED-827 C1 on enclosed inquiry slip



For Greatest Savings in Pumps Get a Dean Brothers GS

Here is the pump that put *service* back into pumps. And with Dean Brothers exclusive service parts policy, no worry about down time waiting for obsolete replacement parts... there are no such things. One day delivery. Consult yellow pages for nearest representative, or wire, phone or TWX direct for fast dependable service.

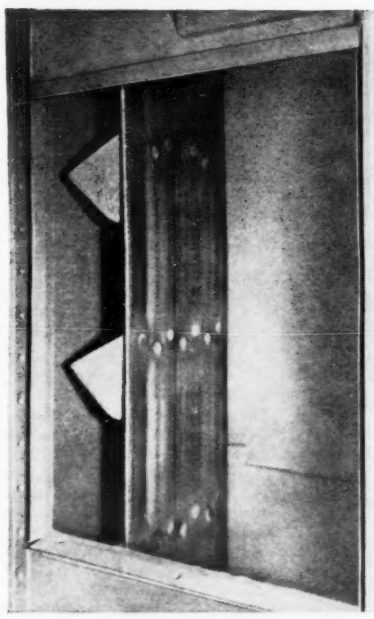
Type GS Standard Centrifugal Pumps
For general, industrial and chemical service
Capacity: to 300 gpm @ 1750 rpm—to 600 gpm @ 3500 rpm
Head: 20 to 80 ft @ 1750 rpm —80 to 300 ft @ 3500 rpm
Pumping Temperature: —150° F to plus 350° F
Working Pressure: to 180 psig @ 350° F

For Full Information Ask for Circular 190

DEAN BROTHERS PUMPS INC.
INDIANAPOLIS 7, INDIANA
The Best Is Our Standard

▲ For more details circle **NED-828 C1** on enclosed inquiry slip ▲

WHATEVER YOU HAVE TO CONVEY—



FOUNDRY SAND
GLASS CULLET
CLAY
SHALE
COAL
GRAIN
FLOUR
FEED
PHOSPHATE
Fine or coarse AGGREGATE
CINDERS

YOU GET BETTER BUCKET HOLDING WITH Scandura PVC BUCKET ELEVATOR BELTING

Highest tensile strength, solid-woven one-piece construction and exclusive PVC compound impregnation give SCANDURA Belting the top rating for performance in bucket elevator service. *Buckets stay put* with this flexible, moisture-proof, oil resistant belting—no matter what material you convey. Get the SCANDURA facts in new 8-page illustrated brochure. write!

Scandura INC.
North Tryon St. at Keswick Ave.
(P. O. Box 949)
Charlotte 1, North Carolina

▲ For more details circle **NED-829 C1** on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letterhead request is indicated, you should write to the company.

Lighting Design

Sylvania Electric Products Inc.—Area light systems are covered by formulas and CU tables for both panel and louver type ceilings in 12-page illustrated lighting design Booklet VE-900. Lighting terms, design factors, and photometric CU tables for pendant and surface mounted units are included. Recommended illumination levels for many applications are listed.

▲ For more details circle **NED-830 C1** on enclosed inquiry slip ▲

Roll Formed Shapes

Roll Formed Products Co.—36-page illustrated Bulletin 760 shows roll formed shapes in actual sizes. It also describes techniques used in making them from aluminum; brass; copper; zinc; titanium; galvanized, stainless, and carbon steels; and painted, clad, and vinyl coated metals. Vinyl and embossed decorative finishes are shown. How punching and notching can be combined with roll forming is explained.

▲ For more details circle **NED-831 C1** on enclosed inquiry slip ▲

Metal Stampings in Small Lots

Dayton Rogers Mfg. Co.—Typical low-cost precision stampings produced by this company are shown in its 8-page illustrated catalog which also covers suggested basic designs and presents cost facts. Permanent round stock punches and dies available are listed, along with facilities and wide range of materials stocked.

▲ For more details circle **NED-832 C1** on enclosed inquiry slip ▲

Pole Buildings

Koppers Co., Wood Preserving Div.—Quickly erected permanent facilities for warehousing, manufacturing, or office use are provided by the one-story, fire-protected pole buildings described in 4-page illustrated Catalog W-389. They afford a wide choice of square foot and height requirements in flat top, clear span, and bay gable types.

▲ For more details circle **NED-833 C1** on enclosed inquiry slip ▲

Metalworking Tools

Plew Tool Corp.—Extensive line of cold heading, forming, and cutting tools is subject of 24-page illustrated metalworking tool catalog. Drawings and specifications are included for many of the stocked tools. Indexed catalog pictures a wide range of special tools, including hollow mills, seating and trepanning tools, reamers, core and spade tools, and punches.

▲ For more details circle **NED-834 C1** on enclosed inquiry slip ▲

Hose & Compressed Air Sprayers

R. E. Chapin Mfg. Works, Inc.—Described in illustrated 16-page Catalog 61 are many items of spray equipment for application of insecticides, fungicides, and other products. They range from units used on garden type hoses to compressed air units carried on a shoulder strap or mounted on a small cart. Hand held sprayers, dusters, a flame sprayer, and a white-wash-water paint sprayer are also covered.

▲ For more details circle **NED-835 C1** on enclosed inquiry slip ▲

Reproduction Material Selector

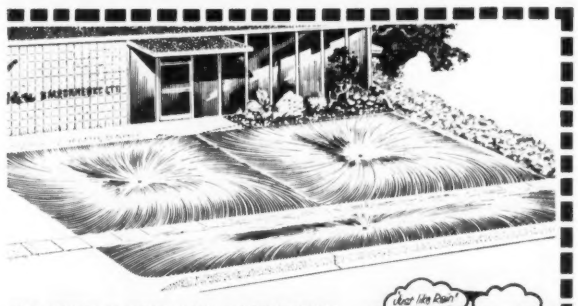
Frederick Post Co.—Applications and specifications for a broad range of diazotype reproduction materials are condensed for easy reference in an 11 x 17 in. selector chart. Uses, base materials, image colors, printing speeds, stocks, trade names, and other data are included for dry and semimoist processes.

▲ For more details circle **NED-836 C1** on enclosed inquiry slip ▲

Ultrasonic Burglar Detection

Walter Kidde & Co., Kidde Ultrasonic & Detection Alarms Div.—By saturating an entire area with inaudible ultrasonic waves at a frequency of 19,200 cps, it is possible to detect the slightest movement or intrusion in the area and trigger an alarm. Such a system is the Kidde ultrasonic burglar alarm, subject of 12-page illustrated brochure.

▲ For more details circle **NED-837 C1** on enclosed inquiry slip ▲



IT'S TRUE! 3 RAIN JETS OUTPERFORM 20 ORDINARY SPRINKLERS. Easy to Install with Rain Jet Pipe and Fittings.

RAIN JET UNDERGROUND SPRINKLER SYSTEM

Yes, Rain Jet underground sprinklers **do** discharge dependable, large square and rectangular patterns. System shown takes but 3½ hours to install.

• Only knife and shovel needed • Average cost just 3c a sq. ft. including Rain Jet valves, flexible polyethylene pipe, and quick-attach fittings • Hundreds of thousands of satisfied users throughout the U.S. Available Nationally. Write for free "How to Install" brochure.

RAIN JET CORP., 301 S. Flower St., Burbank, California
OTHER RAIN JET PRODUCTS: SHOWER BATH HEADS, FOUNTAIN HEADS, SEDIMENT SEPARATORS

▲ For more details circle **NED-838 C1** on enclosed inquiry slip ▲

MOTO-TRUC TRACTORS

for towing trailers, live skids and semi-live skids

Compact, powerful Moto-Truc tractors are the answer to efficient handling of materials in high volume. They cost far less than rider type models.

Write for free Moto-Truc Catalog.

World's Largest Manufacturer of "Walkie" Trucks

The MOTO-TRUC Company
1961 EAST 59th ST. • CLEVELAND 3, OHIO

▲ For more details circle **NED-839 C1** on enclosed inquiry slip ▲

ANOTHER HOBART FIRST!

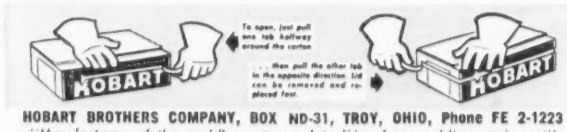
QUIK-LID electrode carton

. . . opens as easily as a pack of cigarettes—reusable lid protects electrodes from damage, dirt and moisture

Here's the answer to an operator's prayer. This carton saves time, trouble, torn knuckles, by opening easily and keeping electrodes ready for instant use.

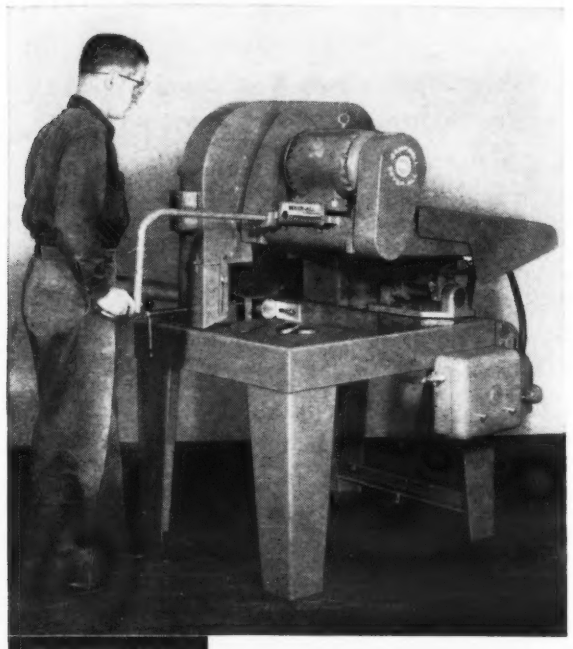
It exposes the entire length of the electrodes—lets you pick one in a hurry, even through heavy welding gloves.

Rugged carton withstands rough handling. Electrodes are cradled in a separate liner to keep them in perfect condition just as they were packed in the factory.



HOBART BROTHERS COMPANY, BOX ND-31, TROY, OHIO, Phone FE 2-1223
"Manufacturers of the world's most complete line of arc welding equipment"

▲ For more details circle **NED-840 C1** on enclosed inquiry slip ▲

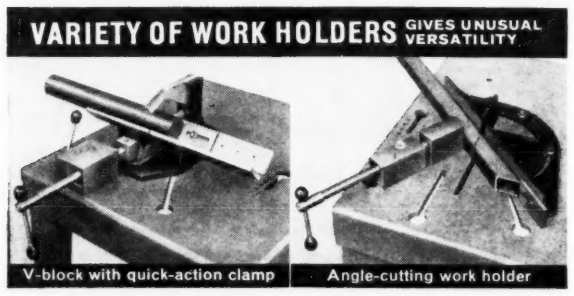


NEW! GREATEST CUT-OFF CAPACITY IN ITS CLASS!

This newest addition to the Sever-All line of abrasive cutting machines—the Model 2-A—provides greater cutting capacity and more flexibility than any other machine in its class. Check these important advantages:

Big capacity • cuts 4" round or square solids, 6" diameter tubing or standard pipe, 6" x 1" flat stock, 6" angle iron and 8" channels. Cuts practically all metals. **Fast operation** • accurate cuts at rates of 2 to 3 seconds per square inch. **Power oscillation** • oscillation is the forward and backward motion of the wheel as it is fed down into the cut. It provides extra cutting capacity, longer wheel life, cooler cutting, and reduced operator fatigue. **Quality cuts** • clean, smooth cuts, require little or no finishing operation. **Economy** • specially developed Sever-All wheels provide lowest cost per cut.

VARIETY OF WORK HOLDERS GIVES UNUSUAL VERSATILITY



V-block with quick-action clamp — Angle-cutting work holder

Choose the work holders you need from several optional arrangements. These include the vise-type holder shown on the machine at top, plus the V-block and angle-cutting fixtures above. Screw-type and quick-action clamping may be used interchangeably.

Write for details on the new Model 2-A Sever-All abrasive cutting machine. Ask for Bulletin DH-299

SEVER-ALL ABRASIVE CUTTING MACHINES ACCO

Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

For more details circle NED-841 C1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

VIBRATION ISOLATION PAD
large sheets cut to size with knife

Extreme elasticity of glass fibers provides the Kinetic vibration isolation pad with high isolation efficiency, plus high internal damping for machine stability. The high density pad encased in an impervious neoprene jacket, is installed without cementing or lagging machinery to the floor. Pad is made in 18 x 18 x ½-in. sheets which are prescored at 2-in. intervals for easy, on-the-job cutting to size with a pen knife. • **Consolidated Kinetics Corp.**, 1065 Dublin Rd., Columbus 12, Ohio.

For more details circle NED-843 C1 on enclosed inquiry slip

TEFLON TAPE
for mechanical and electrical uses

Fluorolin 101-R pressure-sensitive Teflon tape can be used for protective outer wrappings, release and non-stick surfaces, protective coatings for ease of cleaning, and for wear strips or discs. It is suited for minimized electrical requirements. Other uses for the economy tape are as a release material for rubber and plastic molds, for calender rolls and equipment in the baking and food industry, and for abrasion resistance and corrosion barriers. • **Joclin Mfg. Co.**, 23 Lufbery Ave., Wallingford, Conn.

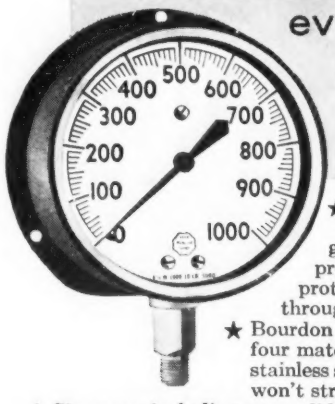
For more details circle NED-844 C1 on enclosed inquiry slip

TIRE BALLAST
increases heavy equipment traction

By becoming aerated when the tire is in motion, "Led" ballast for tractor and heavy road equipment tires expands until the entire tire is filled to capacity. The dry, inert, pulverized mineral blend ballast has the ability to absorb shock within the tire at the point of impact, thus minimizing the shock transmitted to the axle. It provides the equipment operator with a cushioned ride, increases tire traction and tire life, and minimizes soil compaction, because tires roll with little slippage and bouncing. Equipment for installing and removing the weighting material is available. • **"Led" Ballast, Inc.**, 2655 Pearl St., Boulder, Colo.

For more details circle NED-845 C1 on enclosed inquiry slip

Helicoid Gages give *Sustained Accuracy*, even on the toughest jobs



★ Exclusive Helicoid movement has no gears, no teeth. Shock-proof construction protects accuracy through millions of cycles.
★ Bourdon tubes available in four materials—bronze, steel, stainless steel, and K Monel—won't stretch, crack, or leak.
★ Six cases, including new solid-front safety case, meet every mounting requirement.
★ External pointer adjustment can't be jarred out of position.
★ A complete selection of gages and accessories for hydraulic, chemical, and other service.

Write for Catalog DH-65.

HELICOID GAGES ACCO

Helicoid Gage Division
American Chain & Cable Company, Inc.
929-J Connecticut Avenue • Bridgeport 2, Conn.

For more details circle NED-847 C1 on enclosed inquiry slip

Jib Cranes for Any Requirement

WRIGHT Wall Bracket Jib Cranes are the perfect answer for supplementary use to a regular traveling crane or monorail track—or for individual use in bays, on sides of shops, etc. Hinge plates are fitted with Hyatt Roller Bearings or Bronze Bushings. These and all other fittings are made of annealed electric steel. Double tie rods connected to top and bottom fittings allow for "take-up" without use of turnbuckle. Note: mast not furnished. A complete line of WRIGHT pillar type jib cranes is available. If you like, jib crane fittings can be bought separately for local crane assembly.

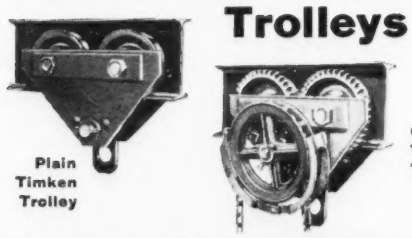
Write our York, Pa., office for Bulletin DH-300

WRIGHT CRANES

Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-848 C1 on enclosed inquiry slip

Smooth-Running Timken Roller Bearing Trolleys



Plain Timken Trolley — Geared Timken Trolley

WRIGHT Timken Roller Bearing Trolleys (shown), in plain or geared models, provide smooth, safe handling of ¼ ton to 40 ton loads with minimum of effort. Heavy steel side plates and chilled tread wheels revolve on Timken Bearings (two bearings to each wheel). Tapered bearing design absorbs both thrust and radial loads and thereby reduces the work required to move the trolley along I-Beam. Chilled wheel treads wear longer, assure wheel roundness. Wright Self Aligning Roller Bearing Trolleys in ½ ton to 20 ton models are also available.

Write to our York, Pa., office for Bulletin DH-242-B

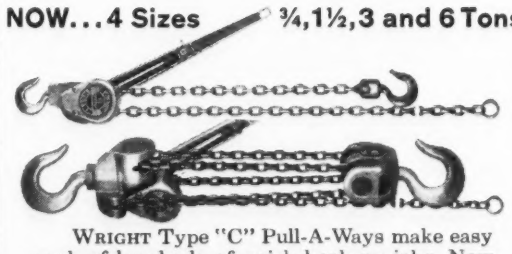
WRIGHT TROLLEYS

Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-842 C1 on enclosed inquiry slip

New ¾-ton Type "C" Pull-A-Way

NOW... 4 Sizes ¾, 1½, 3 and 6 Tons



WRIGHT Type "C" Pull-A-Ways make easy work of hundreds of quick hook-up jobs. Now available in four sizes—¾, 1½, 3 and 6-ton—Type "C" Pull-A-Ways are portable, safe and rugged. Corrosion-resistant modern aluminum alloy castings are used for gear case, handle and covers of all models. Hooks, load chain and chain sheave are made of alloy steel. Positive, dependable load brake securely holds load at any point. Lubricated for life. Weights: ¾-ton, 12½ lbs; 1½-ton, 23½ lbs; 3-ton, 36½ lbs; 6-ton, 63 lbs.

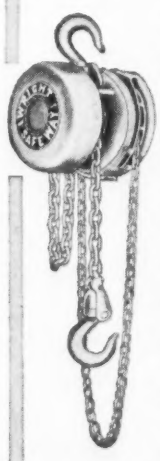
Write to our York, Pa., office for Bulletin DH-56

WRIGHT HOISTS

Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-846 C1 on enclosed inquiry slip

NEW WRIGHT Safeway Hand Hoists
...Made of Aluminum!



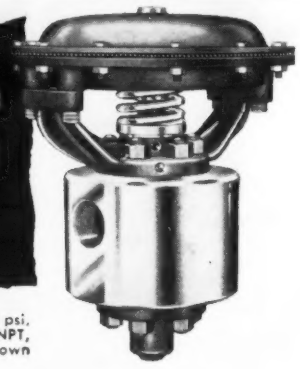
Aluminum covers, hand chain and chain guide in new WRIGHT Safeway hand hoists make them lighter—easier to handle. But original WRIGHT Safeway design remains the same! These hoists feature strong shock-resistant steel. Gears, pinions, drive spindle (also top and bottom hooks) are nickel-chrome-molybdenum alloy steel mounted on anti-friction bearings. Gear train stays permanently lubricated in dust-tight chamber; chain and load wheel are lubricated by wick-type oiler. Electrically welded load chain has maximum resistance to wear and impact. Load wheel, with 5 or more pockets, can be reversed for double life. Weston type load brake. Factory tested at 50% over the rated capacity. Write us at York, Pa., for **Bulletin 345.**

WRIGHT HOISTS

Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-849 C1 on enclosed inquiry slip

High Pressure Fluid Control a Problem?



Sinclair-Collins 6000 psi, 1 inch NPT, 2-way type shown

Specify Sinclair-Collins diaphragm-operated valves to control up to 6000 psi water or hydraulic fluid at high flow rates. S-C valves provide positive, fast control, tight sealing, compact size and ample safety factors.

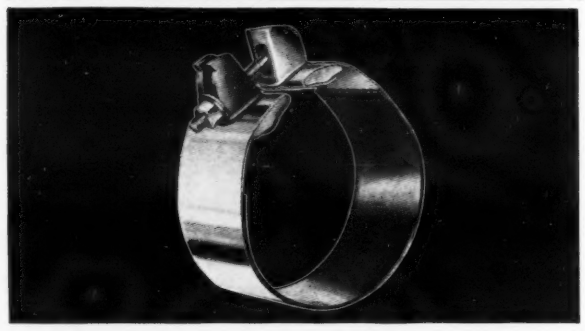
Sizes range from ½ to 2 in. NPT, aluminum bronze billet bodies, pipe mounted, 2- and 3-way types, remote or direct electro-pneumatic control. Call your Sinclair-Collins Field Engineer today.

For more information, write for free Bulletin S-C 59. Address Sinclair-Collins Valve Company, Akron 9, Ohio, Dept. NED-361.

8168

The SINCLAIR-COLLINS VALVE Co.
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO

For more details circle NED-850 C1 on enclosed inquiry slip



Repair pipe leaks quickly, safely

MARMAN PATCHMASTER

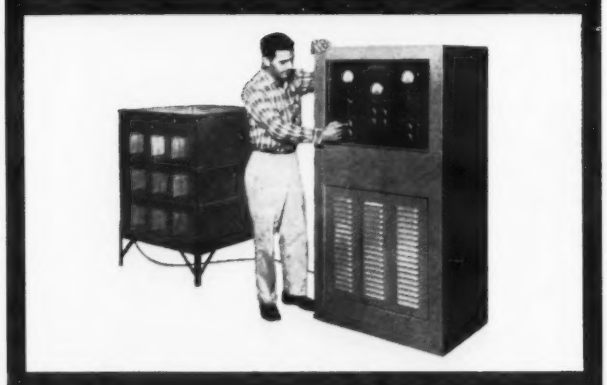
Heavy-duty Pipe Repair Clamp

The Marman Heavy-duty PATCHMASTER Pipe Repair Clamp is designed to stop pipe leaks in oil, gas, water and steam lines quickly, easily, safely and permanently. Corrosion-resistant stainless steel band conforms to pipe contours, seals leak with synthetic rubber pad. Special lug design applies high torque without biting into pipe. Full range of sizes from ½" through 24" in standard pipe sizes, 2" through 8" in O. D. pipe sizes, in four different widths. Keep Marman PATCHMASTERS on hand for emergency repairs. **SEE YOUR DISTRIBUTOR OR WRITE US FOR NAME OF LOCAL SUPPLIER.**

Aeroquip
MARMAN DIVISION
11214 Exposition Blvd., Los Angeles, California
In Canada: Aeroquip (Canada) Ltd., Toronto 19, Ontario
Marman Products are covered by U.S. and foreign patents and other patents pending.
PATCHMASTER is an Aeroquip Trademark.

For more details circle NED-851 C1 on enclosed inquiry slip

CLEANING PROBLEM?
SONOCEN® Ultrasonic Cleaners by BRANSON may be your answer!



Experienced counsel in planning, installation, and maintenance of ultrasonic cleaning systems. Wide range of standard, use-proven units combine into efficient cleaning systems with any needed features and capacity from benchtop size to the largest engineered batch or conveyorized installation. Assured nationwide service by factory-trained specialists. Tell us your problem.

BRANSON ULTRASONIC CORPORATION
56 Brown House Road • Stamford • Connecticut

For more details circle NED-852 C1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Welding Flame Comparison Charts

Smith Welding Equipment Corp.—Two wall charts compare the distinctive traits of the Oxy-LP gas flame with the oxyacetylene flame. Of the full color reproductions, four refer to the welding flame and five to the cutting flame. Charts are 11 x 17 in. unfolded.

For more details circle NED-853 C1 on enclosed inquiry slip

Jig & Fixture Components

Accurate Bushing Co.—Clamp assemblies, handles, knobs, wheels, spring plungers, and torque screws are among over 1000 items that make up company's new line of jig and fixture components. Pertinent literature available includes condensed reference Catalog JF-61, Price List JFP-61, Engineering Bulletin JFE-61 with full scale template drawings, and cross-reference Bulletin JFCR-61 which shows interchangeability of ABC clamps and many popular components.

For more details circle NED-854 C1 on enclosed inquiry slip

Self-Lubricating Bronze Bearings

Chrysler Corp., Amplex Div.—Stock list S-60 covers 1066 sizes of bearings made from self-lubricating Oilite and Super Oilite bronze. Listed are sleeve, flange, and thrust bearings; cored bar stock; bars, plates, discs, and strips; and Super Oilite bar stock. Engineering data deals with loads and speeds, chambers and fillets, properties, installation, machining, and lubrication.

For more details circle NED-855 C1 on enclosed inquiry slip

Fused Quartz Radiant Ovens

Cleveland Process Corp.—Photos of on-the-job applications as well as line drawings, graphs, and charts illustrate 8-page Catalog RH-161 on fused quartz radiant ovens. These ovens can be floor supported, suspended from ceiling or placed on the roof. They are used for baking, drying, heat treating, curing, fusing, and stress relieving.

For more details circle NED-856 C1 on enclosed inquiry slip

Worm Gear Screw Jacks

Joyce-Cridland Co. — To supplement company's original bulletin on worm gear screw jacks, Bulletin 442IJ covers speed-loading information and torque-horsepower requirements. This type of jack, used to adjust, level, and position various items of machinery, is available in 2, 5, and 15-ton column load capacities.

For more details circle NED-857 C1 on enclosed inquiry slip

Mill Products Directory

16-page illustrated "Buyers' Directory of Chase Products & Services" includes information on aluminum, brass, bronze, copper, nickel, silver, rhenium, stainless steel, and zirconium. All mill products and specialties are listed. Write directly to Chase Brass & Copper Co., 236 Grand St., Waterbury 20, Conn.

For more details circle NED-858 C1 on enclosed inquiry slip

Automated Pinch Valve System

Mine & Smelter Supply Co.—The Hydral 60 system for automatic opening and closing of pinch valves consists of one or more pinch valves with a single automatically operated hydraulic pump. System is announced in 12-page Catalog 609 and involves use of Massco-Grigsby rubber-sleeve pinch valves which are made in 1 to 14-in. ID sizes for line pressure ratings of 50, 100, and 150 psi and temperatures to 200° F.

For more details circle NED-859 C1 on enclosed inquiry slip

Noise Measurement Handbook

Measurement of noise and vibration, equipment requirements, procedures, and interpretation of results are dealt with in 100-page "Handbook of Noise Measurement." In 13 chapters, this edition surveys such topics as the decibel, man as a noise-measuring instrument, applications of sound-measurement systems, and the measurement of sound levels and sound-pressure levels. Book is available with supplementary Form 811-DC on instruments for $1 from General Radio Co., West Concord, Mass.

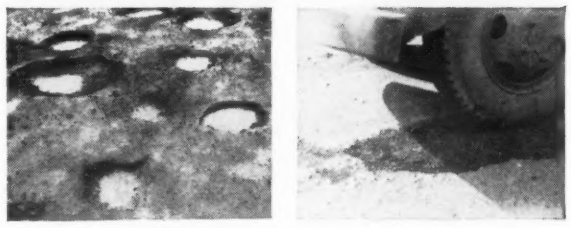
For more details circle NED-860 C1 on enclosed inquiry slip

Electrical Heating Units

Edwin L. Wiegand Co.—Specifications and illustrations of Chromalox electric heater bands, air heating elements, blower type heaters, immersion units, engine heaters, mineral insulated heating cable, radiant process and comfort heaters, controls, and other equipment are found in 24-page Catalog Supplement CS-600.

For more details circle NED-861 C1 on enclosed inquiry slip

REPAIR CHUCK-HOLES IMMEDIATELY
the only permanent patching material that repairs ruts and chuck-holes instantly, in any weather

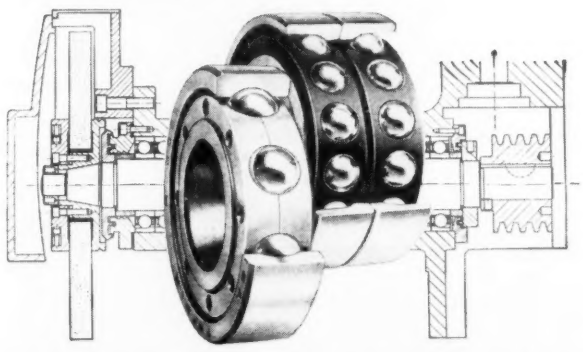


You can keep your loading areas in top condition year 'round without interrupting traffic with ZOR-X, the new permanent patching material. ZOR-X can be used in wet or dry weather, winter or summer. No special equipment is required—merely shovel ZOR-X into the chuck-hole or rut. No tack or prime coat is needed. Compact with tamper, roller, even the back of a shovel and your truck wheels finish the job.

With ZOR-X it is possible to repair chuck-holes before they become so big a complete resurfacing job is necessary. If it's snowing, sweep out the snow . . . if it's full of water, remove and fill with ZOR-X. And you can store ZOR-X indefinitely. Keep it on hand and eliminate costly resurfacing jobs that hold up operations. Write for circular describing ZOR-X and its application. **The Monroe Co., Inc.,** 10702 Quebec Ave., Cleveland 6, Ohio. *Advt.*

For more details circle NED-862 C1 on enclosed inquiry slip

For job-right selection . . .



FAFNIR SUPER-PRECISION BALL BEARINGS

You play it safe three ways with Fafnir super-precision ball bearings. 1. The Fafnir line includes the types, sizes, tolerances, capacities, retainer designs, contact angles, and preloads to meet your needs precisely. 2. Fafnir quality is unsurpassed. You're sure of top performance and service life. 3. Your Authorized Fafnir Distributor offers you competent technical help with replacements — plus Fafnir engineering services when needed. For job-right selection, get Fafnir Ball Bearings from Fafnir's coast-to-coast network of authorized distributors. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR
BALL BEARINGS

For more details circle NED-863 C1 on enclosed inquiry slip

YOU CAN "PUT THE BITE" ON Southern

Southern fasteners will stand **any** test for quality because they are quality-made by USA specialists using USA materials.

You can "put the bite" on Southern for service, too. Contact your Southern distributor today, or write, wire or phone Southern Screw Company, P. O. Box 1360, Statesville, North Carolina. Phone TRiangle 3-7213.

Manufacturing and Main Stock in Statesville, N. C.
Warehouses: New York • Chicago Dallas • Los Angeles.

Machine Screws & Nuts • Tapping Screws • Stove Bolts • Drive Screws • Carriage Bolts • Continuous Threaded Studs • Wood Screws • Hanger Bolts • Dowel Screws

For more details circle NED-864 C1 on enclosed inquiry slip

CRANE RUNWAY MATERIAL

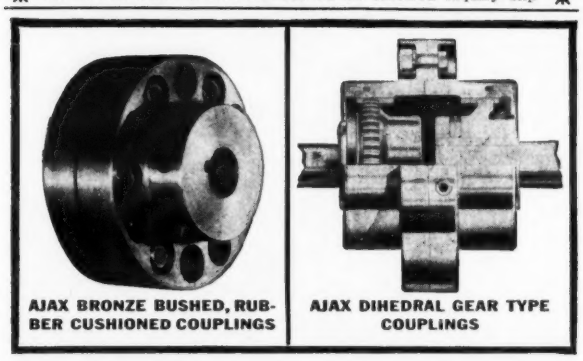
from one dependable source

PER-FIT CRANE STOPS • CRANE RAIL CLIPS
HOOK & ANCHOR BOLTS • SPLICE BARS
CRANE RAIL-12# THRU 175#

For prompt estimates, and free copy of Industrial Rail Catalog NE-3 write
L. B. FOSTER CO.
Pittsburgh 30, New York 7, Chicago 4, Houston 2, Los Angeles 5, Atlanta 8, Cleveland 35.

Faster From Foster
Rail • Piling • Pipe, Valves, Fittings

For more details circle NED-865 C1 on enclosed inquiry slip



Cure Your Breakdowns due to Misalignment by using

Usually you don't detect misalignment strains until something lets go. That's why it is good practice to specify Ajax Flexible Couplings on new equipment and also install them on your present direct-connected machines. You save wear on bearings, gears, impellers, armatures, and housings.

Complete lines of AJAX bronze bushed, rubber-cushioned and Dihedral gear couplings...angular and/or offset capacity up to 7 degrees...competitive prices. *Write for catalog.*

AJAX FLEXIBLE COUPLINGS

AJAX FLEXIBLE COUPLING CO. INC.
WESTFIELD, N. Y.

For more details circle NED-866 C1 on enclosed inquiry slip

NEW Push-Button Efficiency COMES TO BOSTIK® ADHESIVE APPLICATOR

This new idea in push-button control makes the BOSTIK Adhesive Applicator the most efficient and easiest way to brush apply adhesives. Gives instant, exact adhesive control.

Other features: Pressure feed saves repeated dipping. Two or five gallon tank. Used with either solvent or water base adhesives. Eight brush styles. Applicator with push-button brush unit and hose assembly is $114.00. Send for complete details.

Bostik® ADHESIVES

BB Chemical Co., 784 Memorial Drive, Cambridge, Massachusetts
Subsidiary of United Shoe Machinery Corporation
BOSTIK IS A REGISTERED TRADEMARK OF BB CHEMICAL COMPANY

For more details circle NED-867 C1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

SOLDERING FLUX
for ferrous and nonferrous metals

Originally developed for production tube and automatic soldering line use, Mayolyte flux is now adaptable for general soldering operations. Without sputter, this material suspends surface oxide on steel, copper, brass, and galvanized iron. It inhibits oxidation and simultaneously wets through and dissolves oil, grease, and scum. It is readily neutralized with and is soluble in water. Price is $4.25 per gallon, or a trial order of six 4-oz bottles lists for $3.30. • **Farrelloy Co.**, 1246 N. 26th St., Philadelphia 21, Pa.

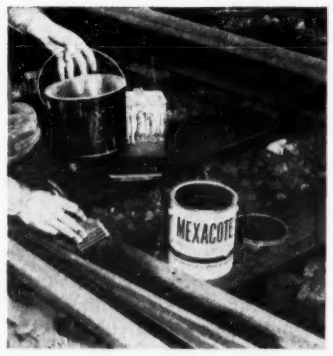
For more details circle NED-868 C1 on enclosed inquiry slip

CONVEYOR BELT
made with molded ridges

Wet or dry materials are carried up steep inclines on the molded ridges of the Ridgelock conveyor belt. Designed for wood chip handling, but capable of carrying sand or gravel with equal ease, its herringbone-shaped ridges minimize the fall-back and also increase its capacity. Belt can be constructed with cotton, Nyfil, or rayon reinforcement with a rubber cover compounded for the type of material to be handled. • **B. F. Goodrich Industrial Products Co.**, 500 S. Main St., Akron 18, Ohio.

For more details circle NED-869 C1 on enclosed inquiry slip

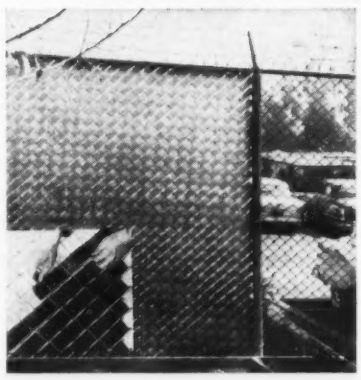
GRAPHITE-LUBRICANT
for railroad, heavy industrial use



Mexacote quick-drying graphite - lubricant, blended from fine Mexican graphite and special oils for use on railroad switch plates, springs, buffer assemblies, and center plates, has heavy industrial application as well. When thinned with turpentine, naphtha, or oleum spirits, lubricant is easily applied by brush, swab, or spatula. After drying, the tenacious, nontoxic coating remaining affords maximum lubricating action. It can be applied to wood or metal and is packaged in 1-gal cans. • **United States Graphite Co.**, 1621 Holland St., Saginaw, Mich.

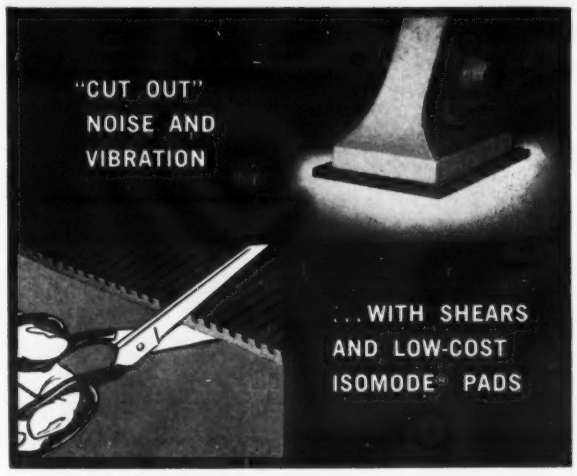
For more details circle NED-870 C1 on enclosed inquiry slip

LINK FENCE TAPE
improves appearance, hides views



Easily installed Latis Glas Tape, woven from Fiberglas and coated with vinyl for outdoor use, affords privacy along with the security of a chain link fence or gate. The 2-in. wide rolled tape is laced through the fence links to conceal about 90 per cent of the background. It covers an unsightly view or area, hides equipment, and enhances general appearance of plants or parking lots. The durable, flexible, fire resistant, and mildew-proof tape will not rot, crack, peel, stretch, or shrink. Only maintenance required is an occasional hosing. Permanent colors are green, gray, redwood, yellow, and white. Price is 11 cents per yard with aluminum clamps. • **Bolton Industries**, Box 502, Arcadia, Calif.

For more details circle NED-871 C1 on enclosed inquiry slip



All you need is a large pair of scissors and Isomode Pads—and you effectively cut vibration, plant noise, machine creep and shock on up to 80 tons of equipment.

No bolts, no lags, no holes to drill or fill. Simply cut section from pad to fit machine foot and slip it under. That's it! Cost: less than $1.50 per ton of machinery.

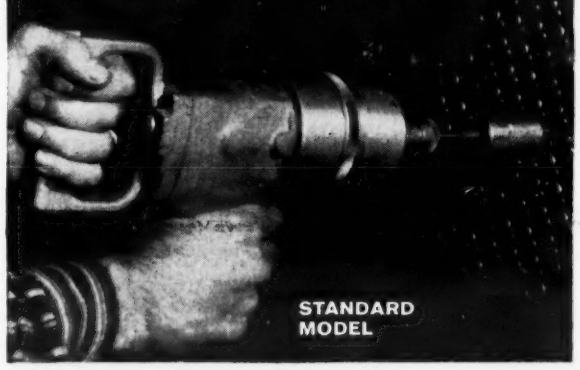
Isomode Pads are completely water and oil-resistant Du Pont Neoprene. Try one—see for yourself. *Send today for special one pad trial offer at discount price.* Ask for Bulletin 418-2.

MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 State Street, New Haven 11, Conn.

For more details circle NED-872 C1 on enclosed inquiry slip

ELLIOTT air magnetic tube expander drives

automatically controlled for fast, accurate tube rolling



Designed for faster, precision tube rolling, the standard model Elliott Air-Magnetic drive is setting new records for speed and accuracy. Some operators average 12 tubes per minute. Desired torque easily preset by rotating forward end of unit. No tools needed. Rolling stops when preset torque levels are reached. Includes trigger-controlled, explosion-proof air motor in single unit. Magnetic control, no springs. Balanced for easy handling. For tubes ¼ in. through 3 in. *Standard model* handles most jobs. *Heavy-duty* for higher torque.

ALSO Tube Expanders and Related Accessories

Elliott offers a complete line of tube expanders, with rotating, parallel, self-feeding rolls. Available in 4 types, ranging from ¼ in. to 3½ in. O.D. Also the Automatic Electric Control—an accurate torque-limiting device designed for tube expanding with any standard tapping motor.

WRITE for Bulletin Y-53

Y1-2A

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS AT: Jeannette and Ridgway, Pa.; Springfield, Ohio; Newark, N. J.
TURBINES • GENERATORS • MOTORS • COMPRESSORS • TURBOCHARGERS
DEAERATING HEATERS • EJECTORS • CONDENSERS • STRAINERS • TUBE CLEANERS

For more details circle NED-873 C1 on enclosed inquiry slip

NEW Louis Allis SELECT-A-SPEDE® DRIVE

Here's a high-gain, high-performance d-c drive that offers you superior speed and tension control plus unmatched flexibility for changing requirements, and low upkeep.

A twist of the dial gives you stepless speed adjustment from zero to full load in either direction. Regulation stays constant because transistors — unlike tubes — do not deteriorate . . . last 15 or more years.

You slash downtime because the 6" x 6" transistor control panels can be added or removed by your electrician right in your shop, as needed. The printed low-voltage circuits are virtually trouble-free and can be quickly and easily replaced from low-cost stocks.

Select-A-Spede: 5 to 400 hp, and your choice of motor enclosures and other modifications. Write for Bulletin 2001 to The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wis.

LOUIS ALLIS

SA-207

For more details circle NED-874 C1 on enclosed inquiry slip

NOW! Seal Concrete Floors with Rubber Base VARLOX

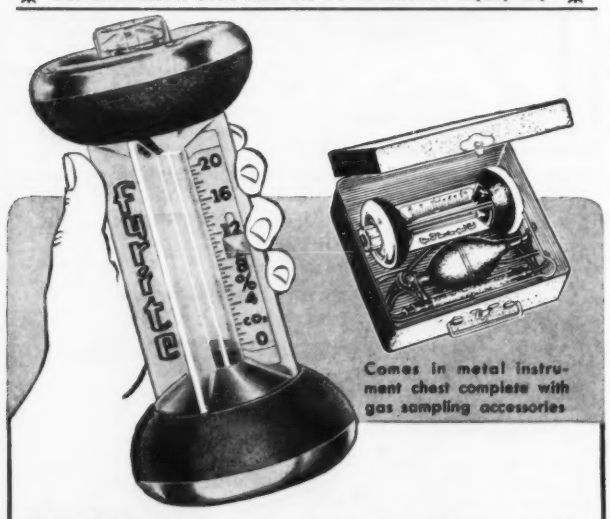
Stop dusting, seal against stains, protect against effects of alkali, chemicals, oil and grease with Varlox. It builds finish into the floor, not on top; can be used on old or new concrete, or even concrete laid on cinder fill or dirt. Easy to apply, it forms a clear, durable finish that cleans easily. Write for Varlox product bulletin.

Rubber Base Varlox is a product of the combined research of Parker Rust Proof and Tropical Paint companies.

PARKER RUST PROOF PRODUCTS

TROPICAL PAINT COMPANY
1124-1244 W. 70th, Cleveland 2, Ohio
HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883 • SUBSIDIARY OF PARKER RUST PROOF COMPANY

For more details circle NED-875 C1 on enclosed inquiry slip



ACCURATE CO_2 Analysis in 40 Seconds!

Other outstanding features of the FYRITE CO_2 Indicator are its durable, fool-proof construction and unmatched convenience of operation. It requires no setting-up, has no valves or leveling bottle to manipulate.

The FYRITE measures CO_2 directly by the fundamental method of chemical absorption. Consequently, the reading is independent of voltage, humidity, temperature, or atmospheric pressure conditions.

Comes complete with chemical charge good for at least 300 readings. Replacing chemical merely requires removing four screws that hold top assembly in place.

Write for Bulletin 805

BACHARACH Industrial Instrument Company
200 N. Braddock Ave. • Pittsburgh 8, Pa.

For more details circle NED-876 C1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Jig & Fixture Tracing Templates

Northwestern Tools, Inc.—Full scale tracing templates for over 200 jig and fixture components are provided in 8-page bulletin. Templates cover toggle shoe clamps, aluminum and cast iron hand knobs, spherical washers, studs, V-pads, T-slot nuts, latch bolts, knurled head screws, and jig feet.

For more details circle NED-877 C1 on enclosed inquiry slip

Hand Trucks for Every Need

Fairbanks Co.—Forty pages of pictures, specifications, and application data on a complete line of hand trucks comprise Catalog T-60. Types range from popular general-purpose two-wheel and platform trucks to special warehouse, barrel, and gas cylinder trucks.

For more details circle NED-878 C1 on enclosed inquiry slip

Automatic Centrifugal Clutches

Formsprag Co. — Rawson automatic centrifugal clutches and clutch couplings for a wide variety of industrial power transmission applications are reviewed in revised and enlarged 42-page Engineering Guide No. 142. These devices limit starting current, produce maximum breakaway torque, start high inertia loads, permit frequent starting and motor reversals, afford overload protection, and act as a centrifugal brake or speed limiting device.

For more details circle NED-879 C1 on enclosed inquiry slip

Tap Selector

Hanson-Whitney Co.—Revised and expanded 36-page "Tap Selector" gives data on more than 1200 different sizes and types of standard taps which are available from stock. Recommendations are made to solve practically any tapping problem.

For more details circle NED-880 C1 on enclosed inquiry slip

Photoelectric Control Case Histories

Cramer Controls Corp., Electronics Div.—Illustrated 80-page case history handbook shows how Infrabeam photoelectric controls solved 40 typical operating problems in materials handling, equipment and personnel protection, production, and automatic control. Modulated infrared radiation enables this device to operate by reflected or interrupted beam over an extremely long range, even under high ambient light conditions.

For more details circle NED-881 C1 on enclosed inquiry slip

Press Brake Die Handbook

Consisting of 11 sections and 134 pages, illustrated manual "Press Brake Dies and Their Forming Uses" is a comprehensive guide to the design and application of bending and forming dies and punching units for press brakes. A complete table of contents and indexes simplify its use. Price is $3. Write on company letterhead to Dreis & Krump Mfg. Co., 7400 S. Loomis Blvd., Chicago 36, Ill.

For more details circle NED-882 C1 on enclosed inquiry slip

Crane Hand Signals

Ederer Engineering Co.—Hoist, lower, stop, rack, travel, and emergency stop hand signals used in standard crane operations are pictured in a special hand signal decal offered with Bulletins CE-410 and CE-420. Decal is designed for ready reference in crane cabs and other control positions. Bulletins also describe the DC Series 600 and AC Series 200 industrial brakes for general use.

For more details circle NED-883 C1 on enclosed inquiry slip

Interior Fire Fighting Equipment

Fyr-Fyter Co.—Revised 16-page 1961 edition of the "Interior Fire Fighting Equipment Catalog" provides latest information on all lines of portable interior fire safety equipment supplied for industrial plants, institutions, refineries, and commercial properties. Extinguishers, hose and extinguisher cabinets, hose racks and reels, hose, valves, and connections are covered.

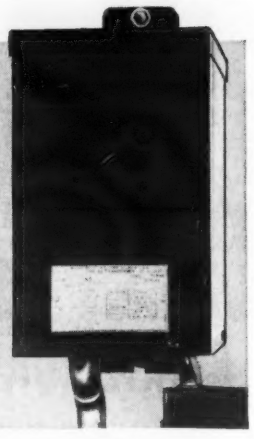
For more details circle NED-884 C1 on enclosed inquiry slip

Conveyor Systems

Food Machinery & Chemical Corp., Packing Equipment Div.—Construction details are given in 20-page brochure on FMC standard conveyors and conveyor systems. It explains how take-up units, power units, power accessories, drums, rollers, and bearings are designed for the Custom Pak system which enables the user to assemble components into an engineered system in his own plant.

For more details circle NED-885 C1 on enclosed inquiry slip

WAGNER Dry-Type General Purpose Transformers



These small size, totally enclosed transformers have core and coils imbedded in solid epoxy compound to protect them from dirt and moisture and to reduce sound level to a minimum. Use anywhere to improve voltage regulation . . . even in quiet areas in offices and hospitals. Install indoors in any position at any angle, or outdoors if desired. Type AE single phase transformers are built to ASA and NEMA standards in 1 to 10 kva ratings. Contact the nearest Wagner branch or distributor for full information. WT61-6

Wagner Electric Corporation
6435 PLYMOUTH AVE., ST. LOUIS 33, MO., U.S.A.

For more details circle NED-886 C1 on enclosed inquiry slip

GOJER, INC. Announces Its

"STOP WASTE PROGRAM"

CARELESS WASH-UP PROCEDURES ARE COSTING YOU MONEY!

A pair of dirty hands with free access to an open can of soap may well be the reason your company handcleaning bill is such a costly item. Provide an effective way of controlling the amount of soap being wasted by your employees, and you'll prevent the greatest part of your handcleaning dollar from being washed down the drain.

GO-JO'S HEAVY DUTY DISPENSER CONTROLS WASH-UPS... SAVES YOU MONEY!

Designed to eliminate waste, the Go-Jo Heavy Duty Dispenser delivers just the right amount of Go-Jo to get even the grimiest hands spotlessly clean. Go-Jo Creme Hand Cleaner is a concentrated formula containing GT-7 for dermatitis protection, plus soothing emollients to prevent chapping. When used in the Heavy Duty Dispenser, it provides four times as many clean-ups as "hand scoop" methods.

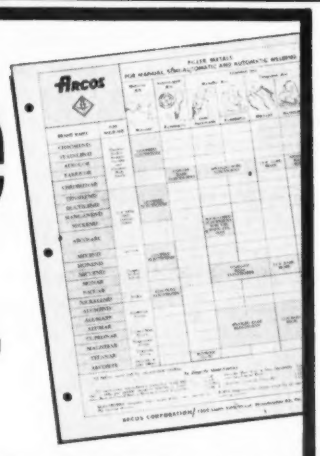
Pat. No. RE. 24312

The Go-Jo jobber serving your area will be happy to show you how to cut as much as 75% off your handcleaning expenditures. Write us today.

GOJER, INC.
Box 991 Akron 9, Ohio
MANUFACTURERS OF go-jo PRODUCTS

For more details circle NED-887 C1 on enclosed inquiry slip

free



new filler metals chart simplifies selection of welding rods and electrodes

Tells at a glance the type rod or electrode to use for welding stainless, low alloy, non-ferrous and light metals. Covers manual, automatic and semi-automatic welding. Includes data on coated electrodes, coiled and spooled bare electrodes, cut bare rods, spooled bare wire, flux cored electrodes and bonded fluxes. Reverse side packed with AWS standard welding symbols and descriptions in handy form. SEND TODAY! ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

For more details circle NED-888 C1 on enclosed inquiry slip

Snap-on BOXOCKETS®

STRONGEST, SAFEST wrenches you can use

Complete size ranges in 14 different types to fit every possible nut-turning job.

Write for your new *Snap-on* catalogue containing complete boxocket listings.

FOR ALL INDUSTRY

SNAP-ON TOOLS

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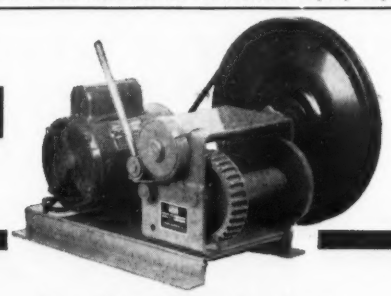
Call on THERN

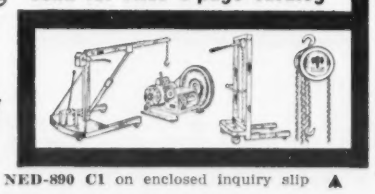


. . . for the Winch that meets Your Need!

Simple in design, the THERN line of spur gear and worm gear meets every need for smooth, dependable winching. Load capacities from 500 lbs. up to 5000 lbs! Specify THERN winches with confidence—for your plant service needs . . . or for component part applications.

- 22 fully guaranteed models; hand operated or electric
- Utility winches—for farm, marine and general use
- Worm Gear Winches—to hold the load at any position
- Heavy Duty Winches—all steel industrial type; 2½ tons capacity
- Complete line of cable and tackle accessories

Send for FREE 6-page catalog



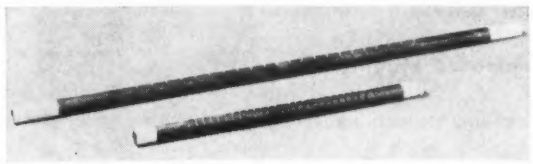
Thern MACHINE COMPANY
3800 West 4th St.
Winona, Minnesota

For more details circle NED-890 C1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

ELECTRIC HEATING ELEMENT for temperature to 1700° C

Usable in kilns and furnaces at temperatures to 1700° C, Super Hot Rod heating elements are made of nonmetallic silicon carbide-molybdenum disilicate.



This temperature is about 200° C higher than is feasible with conventional silicon carbide elements without protective atmospheres. They reportedly have longer life and higher thermal shock resistance than previous rods. • **Norton Co.**, Refractories Div., Worcester 6, Mass.

For more details circle NED-891 C1 on enclosed inquiry slip

ONE-PART EPOXY RESINS available with various properties

Curing times from 2 min up to several days are available in a series of one-part epoxy resins. Used as supplied, they are poured or extruded into place for curing. Various properties are offered: Low to high viscosities, including pastes and jellies; colored and uncolored; transparent or opaque; flexible to hard. Storage life ranges from several months to 1 year. Uses include structural joining, electrical embedments and impregnations, hermetic sealants, repair of castings, filling-in gaps, preventing galvanic corrosion of dissimilar metals, and coatings. • **Grodan Mfg. & Sales, Inc.**, 10807 Lyndon Ave., Detroit 38, Mich.

For more details circle NED-892 C1 on enclosed inquiry slip

PROTECTIVE COATING aluminum flake type in colors

A complete range of colors is provided by Shef-Kote aluminum protective coating. It is a formulation of tinted, polished aluminum flakes that forms a continuous, protective bonded film on metals and other surfaces. It seals small crevices, cracks, and seams and is easy to apply by brush or spray to roofs, asbestos shingles, tar paper, corrugated steel, sheet metal, galvanized surfaces, concrete block, stucco, trailer tops, garage roofs, and basement walls. • **Sheffield Bronze Paint Corp.**, 17814 Waterloo, Cleveland 10, Ohio.

For more details circle NED-893 C1 on enclosed inquiry slip

For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

For stainless steel soldering, use RUBY's Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

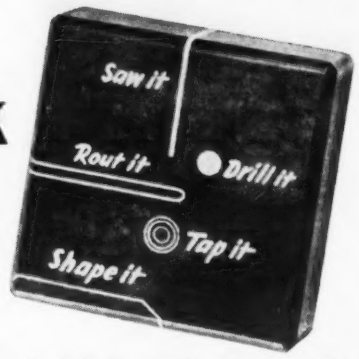
RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

For more details circle NED-894 C1 on enclosed inquiry slip

what can you do with this

FREE BLOCK of BENELEX?



You can saw it, rout it, drill it, tap it, shape it. It's light—one-sixth the weight of steel. It's workable—machines any way you please. It's genuine Masonite hardboard. Watch this high-density laminate take the $ out of production costs. What *can't* you do with Benelex? Find out for yourself; write today for your free sample. We'll send you a free booklet, too, filled with specifications and suggestions for use. Write to Masonite Corporation, Dept. NED-3, Box 777, Chicago 90, Ill.

MASONITE *shows the way*

®Masonite Corporation—manufacturer of quality panel products for building and industry
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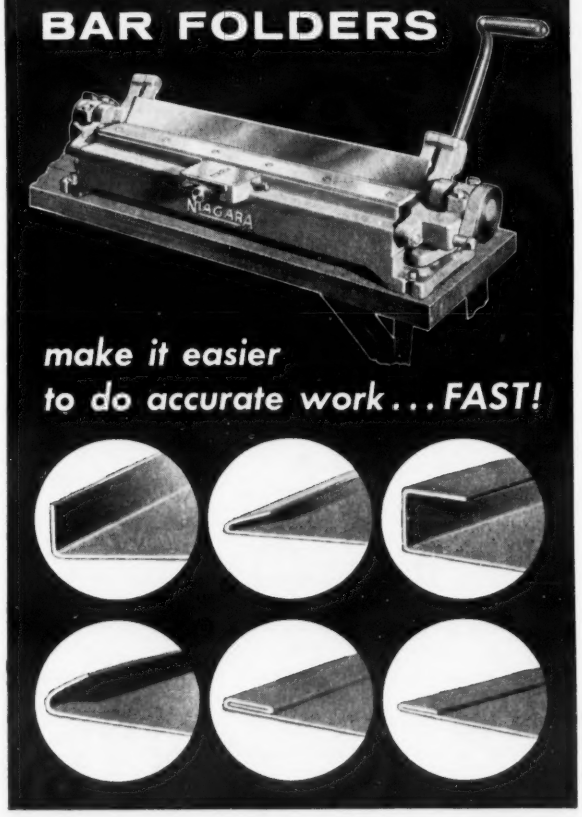
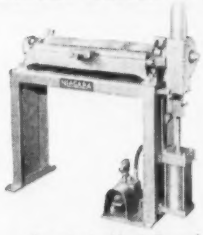
For more details circle NED-895 C1 on enclosed inquiry slip

NIAGARA ADJUSTABLE BAR FOLDERS



Just slide the sheet between the folding blade and the jaw . . . and pull the handle forward. Clamping and folding are practically simultaneous. Niagara Adjustable Bar Folders are fast, versatile and rugged. Easily and quickly adjustable to desired angle of bend, width of fold and thickness of material, they're ideal for producing narrow, sharp, close and *accurate* folds, like those for lock seams. Four sizes are available for handling lengths from 21" to 42".

GET ALL OF THE FACTS on the many unique features of this profit-maker, as well as the complete Niagara line of hand and power operated folders and brakes. Write for new, illustrated Bulletin 74 today.



AIR ACTUATED MODELS, TOO!
Perfect answer for faster production of narrow width work. Available in three sizes for lengths of 30" to 42".

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America's Most Complete Line of Presses, Shears, Press Brakes, Other Machines and Tools for Plate and Sheet Metal Work.

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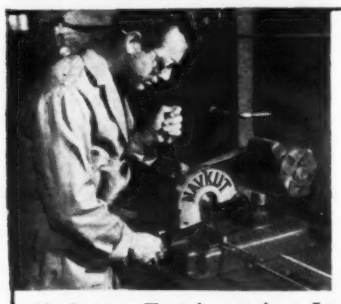
Dealers in principal U. S. cities and major foreign countries

For more details circle NED-896 C1 on enclosed inquiry slip



New $300 precision cut-off saw paid for itself in 15 minutes

Navkut*, the new precision cut-off saw, cut production costs of "spacers" substantially at Unicorn Engineering Inc. (now owned by Computer Measurements Co., Sylmar, Calif.). The cost of spacers was reduced from $8 to 80c each by Navkut's simple cut-off operation. During every 15-minute production run, the Navkut saw paid for itself. Such results aren't unusual with Navkut, the saw that can cut parallel tolerances to within .002" in ferrous, non-ferrous, wood, and plastic materials with only two types of blades. Usually the cut finish and accuracy will be so precise there is no need for milling or grinding. All this, yet the Navkut saw costs only $300. See for yourself how it can save you money. Write today for a free 15-minute demonstration in your shop.

*TRADEMARK

Navkut saw is another product marketed by:

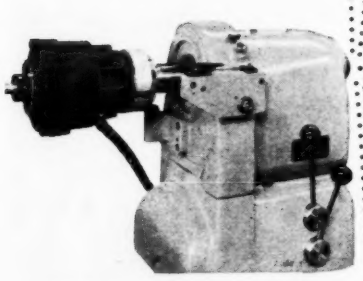
NAVAN INVENTION MARKETING NATIONAL SALES

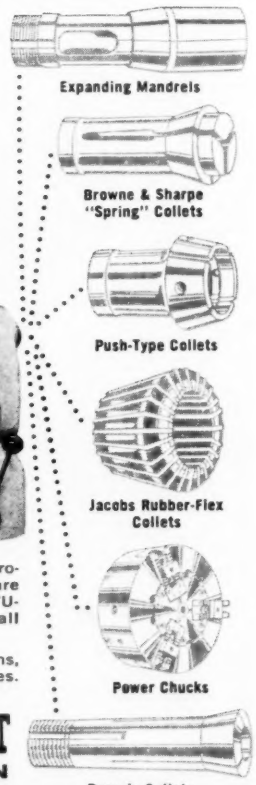
NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
900/J North Sepulveda
El Segundo, California

▲ For more details circle **NED-897 C1** on enclosed inquiry slip ▲

WIL-NUMAT AIR COLLET CLOSER

operates all **6**





Users report 100% increases in production when manual collet closers are replaced with WIL-NUMAT AIR ACTUATORS. Completely versatile for all standard collets and air chucks.

Ask for recommendations, circular and prices.

WIL-NUMAT CORPORATION
411 S. Hindry • Inglewood 1, Calif.

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Plants Use . . .

KECKLEY

Float Valves

ANGLE OR GLOBE

No. 14—Single Seat—Pilot Stem Size ½" to 8"

No. 15—Balanced, Double Seated Size ½" to 12"

BECAUSE they can rely on Keckley's reputation for precise control—

BECAUSE they know Keckley Float Valves will give many years of reliable, trouble-free service—

BECAUSE from Keckley's *complete line* of Float Valves they can pick the valve best suited to their application—

BECAUSE they know they can get reliable engineering recommendations from Keckley, not only on Float Valves, but Temperature Regulators, Pressure Regulators, Strainers, Safety and Relief Valves.

Stocked by leading industrial distributors

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O. C. KECKLEY COMPANY
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KECKLEY

Pressure Regulators • Temperature Regulators • Float Valves
Strainers • Solenoid Valves • Reducing Valves
Pop Safety Valves • Relief Valves

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NEW LITERATURE and CATALOGS

Wheel & Roller Conveyors

Rapids-Standard Co.—Rapistan Adjustable Pressure conveyors in wheel and live roller types are designed to permit accumulation on powered horizontal runs without pressure build-up. Product information includes specifications on length, width, height, belt speed, load capacities, and options.

▲ For more details circle **NED-900 C1** on enclosed inquiry slip ▲

Illuminated Magnifiers

E. W. Pike & Co.—Flash-O-Lens illuminated magnifiers for inspection, testing, production, development, and other work are subject of 4-page folder. Magnifications up to 40-power are available, and prices range from $12.95 to $100.80.

▲ For more details circle **NED-901 C1** on enclosed inquiry slip ▲

Electric Motors & Motor Specialties

Louis Allis Co.—Twenty-three types of electric motors to meet many applications requirements are reviewed in 8-page Bulletin 2651. Line covered includes squirrel-cage motors from ¼ to 2500 hp, gearmotors to 150 hp, dc motors to 400 hp, wound rotor units to 800 hp, and synchronous induction motors to 150 hp, plus alternators, generators, and associated controls.

▲ For more details circle **NED-902 C1** on enclosed inquiry slip ▲

Timing Motors & Torque Controls

General Time Corp., Haydon Div.—The variety of timing motors and controls available from Haydon is demonstrated by 8-page Catalog G-1328. Described are timing motors, clock movements, commercial and industrial time controls, fractional-hp electric brakes and clutches, and military timers. This division is also set up to provide application and sales engineering services.

▲ For more details circle **NED-903 C1** on enclosed inquiry slip ▲

Electromechanical Components

Accurate Electronics Corp. — Standard electronic products and components reviewed in plastic-bound literature folder include phono input and stub jacks, interlock, phono, and speaker plugs; turret terminals and terminal boards; and terminal strips and shaft couplers. Designs are available for appliances, air conditioners, and other electrically operated equipment.

▲ For more details circle **NED-904 C1** on enclosed inquiry slip ▲

Miniature & Instrument Bearings

Fafnir Bearing Co.—Dimensional information as well as practical engineering and application data are contained in 40-page "Miniature & Instrument Bearing Catalog." Bearings are shown in actual size, and technical information simplifies selection of the proper bearing for a given job.

▲ For more details circle **NED-905 C1** on enclosed inquiry slip ▲

AIR PRESS with Built-in ELECTRIC VALVE

Basic arbor stand has ram clearance of 6", throat 5". Base plate is 6" x 9", ground flat on both sides. Arbor stand will take any one of three sizes of Bellows Air Motors, 1¼", 1¾" or 2½" bore. Built-in electric valve with adjustable stroke.

Write for Bulletin MS5-RA
Address:
Dept. NED 361
Bellows-Valvair
Akron 9, Ohio

995-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

▲ For more details circle **NED-906 C1** on enclosed inquiry slip ▲

Encapsulating Diodes with Black Glass

Corning Glass Works—The use of black glass for encapsulating diodes is subject of 8-page envelope-size Brochure RB-1. Available as beads and as cases, black glass protects diodes that are sensitive to visible and infrared wavelengths. Transmittance and other properties are detailed.

▲ For more details circle **NED-907 C1** on enclosed inquiry slip ▲

Machine Arbors & Accessories

Cincinnati Milling Machine Co. — Dimensional data are tabulated in 20-page Catalog M-2029 on machine arbors and accessories. Milling machine arbors, arbor collars, shell and mill arbors, collet adapters, spindle chucks and collets, bushings, and arbor adapters are among items specified.

▲ For more details circle **NED-908 C1** on enclosed inquiry slip ▲

Cutting Tool Specifications

Wesson Co.—44-page Catalog M-860 provides specifications on Wesson throw-away and conventional carbide milling cutters, accessories, blades, parts, and tools. Throw-away inserts and Rigidcut and Varicut inserted-blade cutters are described for accurate selection.

▲ For more details circle **NED-909 C1** on enclosed inquiry slip ▲

Numerical Control Systems

Bendix Corp., Industrial Controls Section—Numerical control systems for various machine tools are subject of 16-page Catalog 308. It covers the new DynaPath-20 Series contouring controls, DynaPoint-20 Series and Ferranti positioning controls, the Ferranti Fl-22 coordinate measuring machine, and several accessories.

▲ For more details circle **NED-910 C1** on enclosed inquiry slip ▲

Brass Thread Insert for Plastics

Heli-Coil Corp., Phelps Mfg. Div.—How the Standard Dodge expansion insert is used to form permanent brass threads in plastics after molding is explained in Bulletin P-101. Table lists insert sizes available which range from 4-40 through ¼-20.

▲ For more details circle **NED-911 C1** on enclosed inquiry slip ▲

Air & Hydraulic Cylinders

Mo-Bar Hydraulics Co.—Bulletins 202, 203, and 204 descriptively cover Series "a" 1½ to 14-in. bore air cylinders, Series "m" 1½ to 14-in. bore hydraulic cylinders, and Series "h" 1½ to 12-in. bore hydraulic cylinders, respectively. Pressure ratings in the same order are 200, 500-2000, and 2000-3000 psi.

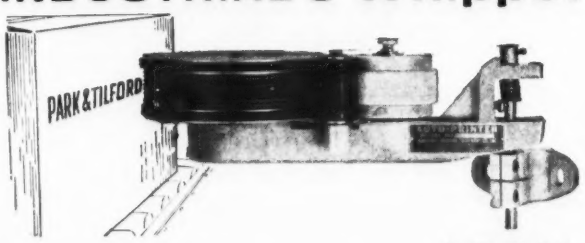
▲ For more details circle **NED-912 C1** on enclosed inquiry slip ▲

Industrial Fluorescent Lighting

Thomas Industries Inc., Benjamin Div.—All lamp types including Power-Groove, 800 ma, Slimline, and Rapid-Start are described in the line of industrial fluorescent lighting fixtures listed in Bulletin F. Two new double-embossed porcelain enameled reflectors, available in either 10 or 25 per cent upward component, are also covered. Protected fluorescent units are useful in locations with severe atmospheric conditions.

▲ For more details circle **NED-913 C1** on enclosed inquiry slip ▲

NO. 1 SPECIALIST IN THE MARKING FIELD INDUSTRIAL'S Whippet



What Makes it First?... ***LOOK:***

Versatility . . . automatically imprints cartons, bags, rolls, cans, containers and packages — as you need them during production line runs.

Low cost . . . "Whippet" sells low, seldom requires attention or maintenance.

Capacity . . . works non-stop at production lines speeds. No misses or overprints.

Simple Operation . . . attaches quickly and easily direct to conveyor line; non-oscillating friction head uses interchangeable rubber type for clear, legible impressions.

Saves . . . expensive hand stencilling, pre-printing, storage and inventory costs.

Proved practical and economical on almost any marking problem — in plants all over the country — "Whippet" is so simple, well designed and manufactured that experience proves they serve faithfully and profitably far beyond ordinary equipment. See how they can improve your operation.

Write for details and catalog today! Dept. NED

ime INDUSTRIAL MARKING EQUIPMENT company, inc.
655 BERRIMAN ST. BROOKLYN 8, N.Y. NI 9-3305

▲ For more details circle **NED-914 C1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

PROTECTIVE SKIN COATING acts as barrier to irritants

Smoothed on the hands and allowed to dry, Go-Jo Liquid Protective Skin-Coat forms an invisible barrier against dermatitis - causing irritants. The creamy liquid works into pores quickly and stops penetration of carbons, greases, inks, solvents, and other soils. Coating will not come off on objects handled by the worker. Skin-Coat is packaged in polyethylene squeeze bottles in sizes convenient for pocket carrying to the job. • **Gojer, Inc.,** Box 991, Akron, Ohio.

▲ For more details circle **NED-915 C1** on enclosed inquiry slip ▲

MAGNESIUM CLEANER removes oxidation and stains

Used cold, Bernite BR4 dry powder magnesium cleaner and bright dip will remove oxidation, foreign matter, and stains from magnesium surfaces to leave a mirror bright finish. A solution of the cleaner quickly and effectively prepares magnesium for welding. It will not cause dimensional changes and permits handling without fuming or toxicity worries. • **Bernard Chemical Products Co.,** 98-21 Linden Blvd., Ozone Park 17, N. Y.

▲ For more details circle **NED-916 C1** on enclosed inquiry slip ▲

PLASTIC GLAZING PANELS shatterproof type resist vibration

Wide variety of sizes is available in these clear plastic glazing panels for both wood and metal sash windows in all types of buildings. Panels are shatterproof and resist vibration, twisting, shock impact, and thermal expansion. Installation is similar to that of glass panes. Large size single sheets for covering or replacing a number of smaller panes are available, as are translucent panels in various colors. • **Auburn Plastic Engineering Co.,** 4919 S. Loomis Blvd., Chicago 19, Ill.

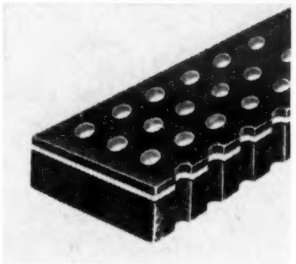
▲ For more details circle **NED-917 C1** on enclosed inquiry slip ▲

COLOR-CODED TAPE DISPENSER is handy six-color package

Slipknot 45 color-coding tape in this handy package dispenser includes six ½ in. by 20-ft vinyl tape rolls in standard identification colors. Each color can be dispensed from the carton without removing the roll. All rolls are held on a wooden core which is easily removed for roll replacement. Green, orange, blue, yellow, red, and white colors are provided in the 3½ x 2½ x 2½-in. tape package. • **Plymouth Rubber Co.,** Revere Street, Canton, Mass.

▲ For more details circle **NED-919 C1** on enclosed inquiry slip ▲

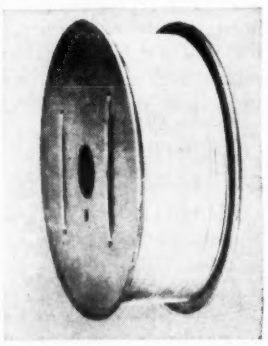
MACHINE MOUNTING PADS absorb up to 85 per cent vibration



Transmitted vibration of machinery mounted on Perf - O - Grip Vibra-Mounts is reduced by as much as 85 per cent. These mounting pads combine the cushioning effect of resilient wool felt with spaced perforations that provide lateral flexibility to reduce creep as well. Application of appropriate adhesive to both sides of pad prior to machine installation serves to keep machine in place in many cases without the need for lag bolts. Pads are made in a general purpose density for loads from 10 to 50 lb per square inch and in a heavy duty density for heavier machine loads. • **American Felt Co.,** 2 Glenville Rd., Glenville, Conn.

▲ For more details circle **NED-920 C1** on enclosed inquiry slip ▲

TUBULAR WELDING WIRE made in stainless steel alloys



Conforming to both ASTM and AWS standards, tubular stainless steel welding wires are designed for application by automatic and semiautomatic welding processes. They can be deposited by metal arc inert gas, tungsten arc inert gas, and submerged arc processes. They are available in 3/32, 7/64, ⅛, 5/32, and 3/16-in. diameters in 25-lb spools; 25, 50, and 100-lb coils; and in 200 and 500-lb Payoffpaks. Specific analyses can be furnished with no added cost. • **Stoody Co.,** Whittier, Calif.

▲ For more details circle **NED-921 C1** on enclosed inquiry slip ▲

R-W FUSIBLE LINKS for FIRE DOORS & WINDOWS

...constant protection against the menace of fire!

- Available in a wide range of types and sizes.
- Available with standard "break-away" temperatures of 160°, 212°, 286°, and 360°... also made with any special "break-away" temperature you desire.
- Links carry up to 25 lb. loads... available in double, triple and quadruple link assemblies to carry loads up to 100 lbs.
- R-W Fusible Links are Underwriters and Factory Mutual Laboratories Approved.

R-W Fusible Links provide a constant guardian against the spread of fire... always ready to release fire blocks at the first sign of excessive heat. Ideal for fire doors, windows, hoods, hatchways, ventilation fans, etc. Economical to buy and install... especially economical when you consider that a fusible link could prevent thousands of dollars worth of damage. Write today for Brochure No. F-184.

R-W FIRE DOORS & HARDWARE... Underwriters and Factory Mutual Laboratories Approved for Class A, B, C, D, E, and F openings. Quickly and easily installed... provides 24 hour a day protection... lowers your insurance rates. Write today for Catalog No. 420.

RICHARDS-WILCOX MFG. CO.

435 W. Third Street • Aurora, Illinois • Branches in Principal Cities

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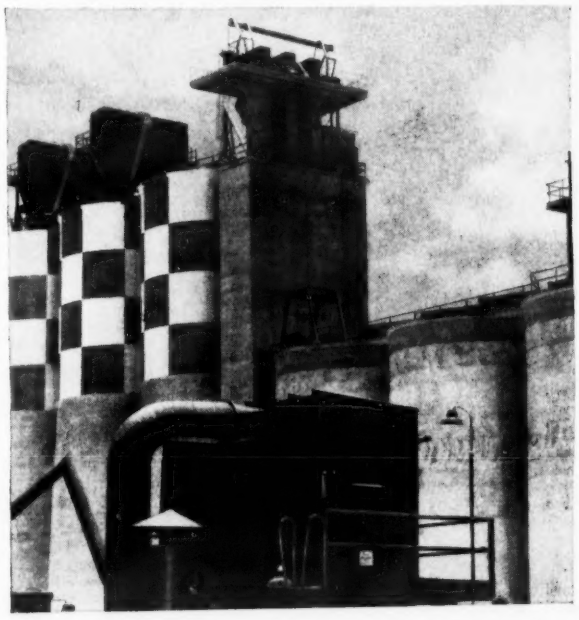


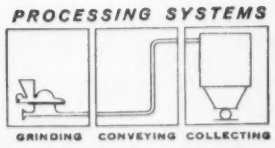
Performing a TOP JOB... The MIKRO-PULSAIRE DUST COLLECTOR

Installed at the Hawaiian Cement Company's new plant at Barber's Point, Oahu, you'll find a total of nineteen MIKRO-PULSAIRE Dust Collectors, four of which are pictured above.

Because it has no moving parts . . . internally or in the gas stream . . . the MIKRO-PULSAIRE has proved ideally suited to handling highly abrasive materials such as cement. Other features to be considered are its record of 99.9% *plus* recovery, and high air-to-cloth filter ratio. Our Hawaiian installation provides a total filtering capacity of 329,928 cfm. Whatever your requirements, the MIKRO-PULSAIRE can deliver a top job for you, economically and with maximum dependability.

MIKRO-Products
PULVERIZING MACHINERY COMPANY
28 Chatham Rd., Summit, N. J.
A Division of American-Marietta Company

PROCESSING SYSTEMS



Represented throughout the world in sales, service and manufacturing facilities.

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More NEW Metered Variac® Autotransformers

Popular Type W5 VARIAC Autotransformers in industrial-type metal cases with carrying handle, 3-wire grounded line cord, convenience outlet, fuses, switching and meters.

All for 120-volt input with output voltages continuously-adjustable from 0 to 140 volts.

ALL have output voltmeters with 0-150-volt range.

Type W5MT3A, 0-5 amp. output, with dual 0-1 and 0-5 amp. meter range: **$89.00**

Type W5MT3W, 0-5 amp. output with dual 0-150 and 0-750 wattmeter, no ammeter: **$112.00**

Type W5MT3AW (illustrated), 0-5 amp. output, with dual 0-1 and 0-5 amp. meter and 0-150 and 0-750 wattmeter: **$150.00**

Write for Complete Information

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38 8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA 1186 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO In CANADA: 99 Floral Parkway TORONTO 15

▲ For more details circle **NED-918 C1** on enclosed inquiry slip ▲

Self-Cleaning LA-CO Flux STRETCHES Silver Solder

. . . makes it go FARTHER FASTER

for all Silver Solders in 1125°-100° F. range

It's a fact! La-Co Silver Solder Flux incorporates a powerful self - cleaning action that can actually stop waste of expensive silver solder. It dissolves all refractory and non-refractory oxides—clears the way so solder can penetrate into every tiny crevice. Every drop of solder is put to work; you use just as much as necessary to get a perfect joint . . . and no more. Yet with all this built-in muscle La-Co Silver Solder Flux is completely acid-free . . . completely safe to work with . . . can't stain, pit or corrode metals. Packed in tins for added safety. Won't harden or crystallize.

Flux problems? Let us help; no obligation!

Look for La-Co at your supply house . . . or write on your letterhead for samples.

LA-CO BRAND

THE LAKE CHEMICAL CO.
3053 W. Carroll Ave. • Chicago 12, Ill.

▲ For more details circle **NED-922 C1** on enclosed inquiry slip ▲

A DAY'S WORK IN 50 MINUTES

Homestead's Multi-Job Washer cleans fork lift trucks fast at the American Greetings Corporation, Cleveland.

Now cleaned by hot, high pressure solution in 50 minutes with the Multi-Job Washer, these trucks used to be out of service for a full day. Costs only $325, but the Multi-Job Washer cleans like a million! Industrial clean-up problems? Write or check item number.

HOMESTEAD VALVE MANUFACTURING COMPANY
Hypressure Jenny Division, Coraopolis, Pa.
(In Canada: Hypressure Jenny Sales & Service, Ltd., 517 Jarvis St., Toronto 5, Ontario. C.S.A. Approved)

For more details circle **NED-925 C1** on enclosed inquiry slip

The Copyflo® 1824 Printer, using ordinary paper, cuts costs of engineering-drawing reproduction

Here's a remarkable machine that sharply reduces the cost of engineering-drawing reproduction because it *uses ordinary, inexpensive paper.*

The XeroX® Copyflo® 1824 printer, which requires no exposure or other adjustment, reproduces from a microfilm aperture card, making dry, positive, 18" x 24" prints—or smaller —at extremely low cost. It also copies onto vellum or offset paper masters.

Operation is automatic. Prints ready for immediate use emerge as fast as four a minute.

The quality of reproduction is superb. Images are sharp black-on-white and won't rub off. There is no odor, no waste, and the finished print may be written on with pen or pencil.

SIMPLE AS A-B-C

A. Operator inserts microfilm aperture card. **B.** Next, operator inserts a sheet of ordinary paper or vellum, or an offset paper master. Insertion starts automatic printing and processing cycle. **C.** The first print is automatically delivered in 30 seconds, subsequent prints (of the same or different drawings) every 15 seconds.

Write today for our free 1824 booklet giving the full benefits you can expect from a Copyflo 1824 printer. HALOID XEROX INC., Department 61-207X Rochester 3, N. Y. Branch offices in principal U. S. and Canadian cities. Overseas: Rank-Xerox Ltd., London.

HALOID XEROX®

For more details circle **NED-926 C1** on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Antistatic Agents

Merix Chemical Co.—New strength and permanent destaticizing effects on various plastics, fibers, and yarns are attributed to Anti-Static agents No. 79 and No. 79-OL which are described in 4-page 1961 bulletin. Both products are now packaged in lightweight non-breakable plastic gallon containers to save shipping weight. Prices are given.

For more details circle **NED-927 C1** on enclosed inquiry slip

Precision Incline Gages

Engis Equipment Co.—Microptic Precision Clinometers are sensitive instruments used to set and check angles through 360 degrees of arc, with a range of 10 min to 1 sec. The portable, totally enclosed instruments are used as universal reference units for checking jig borers, fixtures, and even cutting tools. Twelve-page Folder CT 15/3 provides details.

For more details circle **NED-928 C1** on enclosed inquiry slip

Plastisols & Organosols

Union Carbide Plastics Co.—Technology of vinyl plastisols and organosols is discussed in 24-page Brochure J-2148. This working manual for formulators and users covers all aspects of formulation, processing methods, and applications. Materials are used as coatings for a variety of surfaces.

For more details circle **NED-929 C1** on enclosed inquiry slip

Pump Seal Guide

U. S. Seal Mfg. Corp.—Revised pump seal Catalog 460 lists with illustrations over 250 engineered pump seals for servicing any brand name pump. Seals are supplied individually boxed, complete with installation instructions.

For more details circle **NED-930 C1** on enclosed inquiry slip

Stocked Relays

Magnecraft Electric Co.—Stock relay catalog gives specifications and prices of relays stocked for immediate shipment. Included are ac and dc voltage and dc current-actuated relays; general purpose relays; subminiature to medium size telephone type relays; plug-ins; sealed and covered units; 10, 15, and 50-amp power relays; RF switching relays; and twin contact units up to six-pole double-throw.

For more details circle **NED-931 C1** on enclosed inquiry slip

Glassed-Metal Pipe & Fittings

Pfaudler Co.—Sections of 16-page Bulletin 987 on glassed-metal pipe valves and fittings are devoted to standard Glasteel pipe, nonadherence Glasteel pipe, expansion joints, field cut Glasteel pipe, glassed ductile iron fittings, sight boxes, glassed outlet valves, pop safety valves, spray rinse valves, and other standard items. The glass-lined pipe resists up to 450° F and pressures to 300 psi.

For more details circle **NED-932 C1** on enclosed inquiry slip

Floodlighting Handbook

Spero Electric Corp.—Selection and installation of floodlights is made easier with 52-page file catalog 31-F-2. It describes and specifies Spero open and closed floodlights, flood brackets, and poles. Fixtures accept 100 to 1500-w incandescent and 400 to 1000-w mercury vapor, plus PAR and R type lamps. New designs embody greater utility, increased beam patterns, and easier installation.

For more details circle **NED-933 C1** on enclosed inquiry slip

Injection Molding Plastic

United States Rubber Co., Naugatuck Chemical Div.—Developed for injection molding, vacuum forming, and extrusion, ABS plastic Kralastic MH is currently used in home appliances, auto parts, and many other areas. Twenty-page Booklet 70750 provides physical and chemical data, including performance charts.

For more details circle **NED-934 C1** on enclosed inquiry slip

Hydraulic & Pneumatic Pumps

Selection of hydraulic and pneumatic pumps and components described in 150-page catalog includes accumulators, actuators, couplings, cylinders, power units, valves, pumps, and motors made by major manufacturers. Greer Hydraulics, Dragon Engineering, Victor Equipment Co., and Dukes Hydraulics are among companies represented. Available only by writing on letterhead to Kenett Corp., 320 Washington St., Brookline 47, Mass.

For more details circle **NED-935 C1** on enclosed inquiry slip

HOW MUCH WILL MECHANIZED FLOOR CARE SAVE YOU?

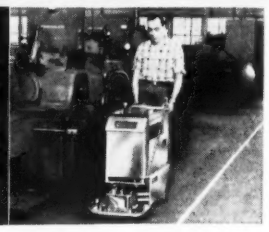


Figure it out by comparing the average time required for a man to mop your floors vs. *cleaning* them with a Clarke-A-matic Floor Maintainer:

FLOOR AREA IN SQ. FT.	ONE MAN WITH MOP	ONE MAN WITH CLARKE-A-MATIC	HOURS SAVED
20,000	20 hrs.	1½ hrs.	18½ hrs.
50,000	50 hrs.	4 hrs.	46 hrs.
100,000	100 hrs.	8 hrs.	92 hrs.

Translate this into dollar savings by multiplying your hourly labor cost by the hours saved with a Clarke-A-matic.

For example, if you have 50,000 sq. ft., it takes 50 hours with a mop, only fours with a Clarke-A-matic. You save 46 hours. Based on the national average labor rate of $1.50 per hour, *you save $69 every time you Clarke-clean your floors.*

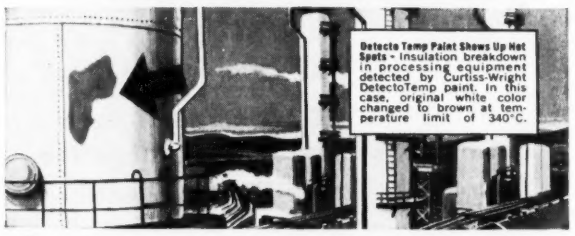
And, Clarke-A-matic gets floors *clean*! It scrubs, picks up dirt and squeegee-dries, all in one self-propelled operation.

Ask to have your Clarke distributor tell you more about Clarke mechanized floor care. Write us today.

CLARKE FLOOR MACHINE CO.
DIVISION OF STUDEBAKER-PACKARD CORPORATION
223 E. Clay Avenue, Muskegon, Michigan

For more details circle **NED-936 C1** on enclosed inquiry slip

Color-Changing Paint Indicates Temperatures —Thermal Distribution



Detectotemps are temperature indicating paints which change from one color to a totally different color when certain temperatures are reached. They are used in hundreds of operations from chemical processing, petroleum refining to welding, forging, heat treating and monitoring surface temperatures to improve quality, reduce costs or increase safety. Detecto Temp has the unique ability to indicate local temperature variations. This is impossible to do with thermocouples or any other presently available product. Colorful folder available.

DETECTOTEMP
Paint available in 4 oz. and 1 lb. metal cans. 36 types cover temperature range from 40°C to 1350°C

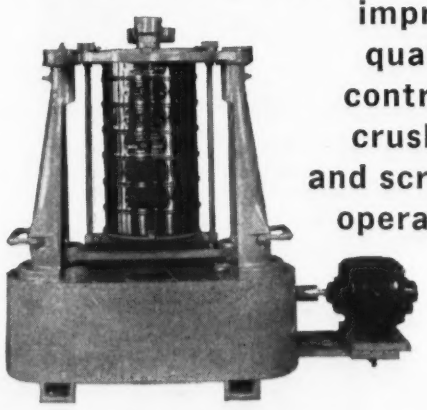
Thermochrom
Crayons convenient for testing surface temperatures of small areas. 18 crayons cover temperature range from 65°C to 670°C.

CURTISS WRIGHT
Princeton Division • Princeton, New Jersey

For more details circle **NED-937 C1** on enclosed inquiry slip

TYLER TESTING SIEVES

improve quality control of crushing and screening operations



Tyler Testing Sieves are used worldwide as a standard method of classification of granular materials—particle measurement from less than two-thousandths of an inch up to two or more inches is possible. They improve quality control of your screening operations, permit standardization between different plants. Tyler Sieves can be used with Ro-Tap shaker (shown above), by portable, or by hand-operated shaker. *Write for new booklet 608* describing testing equipment. and covering latest A.S.T.M. testing sieve specifications. The W. S. Tyler Company, 3615 Superior Avenue, Cleveland 14, Ohio.

TYLER

WOVEN WIRE SCREENS • SCREENING MACHINERY • TESTING SIEVE EQUIPMENT

For more details circle **NED-938 C1** on enclosed inquiry slip

COMPLETELY PACKAGED
—for shop or laboratory use

PERECO
Electric
FURNACE

FG SERIES
Available in a number of sizes.

Treating high-speed steel is just one of the jobs which are being handled more efficiently with the accurately controlled, clean electric heat of Pereco Furnaces. Also more economically! This is substantiated by reports from users—representing a cross-section of industry—from all points of the globe. And the FG Series Pereco Unit (illustrated above), with operating temperature to 2500 F., is only typical of many standard models—with a wide choice of controls—available for handling different types of work. Whatever your furnace need may be, it will pay you to investigate a Pereco Furnace.

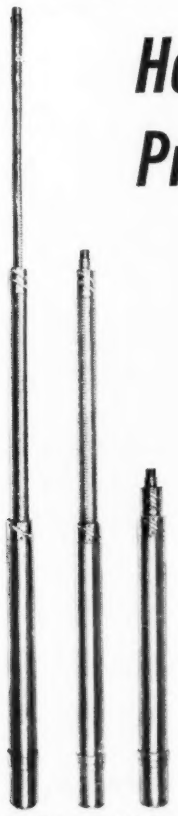
Pereco also manufactures standard or special furnaces from 450 F. to 5000 F.

PERENY EQUIPMENT CO., Inc.
Dept. G 893 Chambers Rd.
Columbus 12, Ohio

PERENY EQUIPMENT COLUMBUS OHIO

Write Today For Details

For more details circle NED-939 C1 on enclosed inquiry slip



How To Get Precise Reach

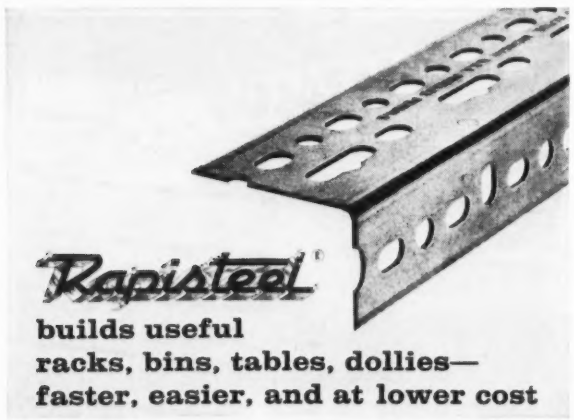
Saginaw Multi-extending Ball Bearing Screws permit you to design actuators with precise reach . . . stepless and fully controlled positioning from retracted to extended limits. That's why two or more can be synchronized. Power loss to friction is negligible. They need little or no maintenance . . . usually lasting longer than the original equipment.

WRITE TODAY FOR NEW 1961 DATA BOOK.

Saginaw ball bearing **Screws**

SAGINAW STEERING GEAR DIV.
GENERAL MOTORS CORP., SAGINAW, MICH.

For more details circle NED-940 C1 on enclosed inquiry slip



Rapisteel
builds useful racks, bins, tables, dollies—faster, easier, and at lower cost

New Rapistan design slotted angle is fast and easy to work with, designed for all in-plant construction needs. Corrosion resistant, completely re-usable, extra durable, easy to handle. Write today for these illustrated Rapisteel construction guide books.

RAPISTEEL CONSTRUCTION IDEA MANUALS — FREE!

The RAPIDS-STANDARD CO., INC.
612 Rapistan Building
Grand Rapids 2, Michigan

Rapistan SLOTTED ANGLE

For more details circle NED-941 C1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

LIQUID BOWL CLEANER
packaged in plastic container

Reformulated Huntington liquid bowl cleaner, now available in a nonbreakable 1-qt plastic container, has increased cleaning power. Its pleasant fragrance leaves a fresh odor after use. Product will not stain porcelain, even if chipped or cracked. • **Huntington Laboratories, Inc.**, Huntington, Ind.

For more details circle NED-942 C1 on enclosed inquiry slip

EPOXY PASTE ADHESIVE
cured with four curing agents

Cure conditions from room temperature to 300° F are afforded by the four liquid curing agents available for use with Epon 901, a solvent-free epoxy paste adhesive. The epoxy resin is a gray paste which, when mixed with any of the curing agents, becomes thixotropic during cure at high temperatures. Adhesive has tensile strengths up to 3800 psi, and is resistant to salt spray, water, and most organic liquids. It will bond stainless steel, aluminum, rubber, reinforced plastics, glass, ceramics, bondable nylon and Teflon, and almost any other combination of materials. Three of the curing agents are color indicating—they change the adhesive color from gray to red when paste and liquid are thoroughly mixed. They provide the adhesive with pot life of 30 min to 6 hr at 75° F. • **Shell Chemical Co.**, Adhesives Dept., Box 831, Pittsburg, Calif.

For more details circle NED-943 C1 on enclosed inquiry slip

MASONRY LEAK SEALER
applied even against water pressure

When mixed with Portland cement, Stontite masonry repair liquid produces a quick-setting mortar which bonds tightly to masonry to stop water leaks and seepage. It dries rapidly and can even be applied against hydrostatic pressure. When used as a plaster coating, it is applied to the exposed side of walls where it prevents moisture seepage. Stontite is available for a 30-day trial period to prove satisfaction. • **Stonhard Co.**, 401 N. Broad St., Philadelphia 8, Pa.

For more details circle NED-944 C1 on enclosed inquiry slip

Rapistan® PRESS-VEYORS

Call on Rapistan for the most efficient equipment to handle any type of mass-produced machine parts, forgings, stampings, light or heavy, any shape, any size, any temperature. Press-Veyors work at steep inclines in close quarters, easily portable, thoroughly dependable. Wide range of Press-Veyor sizes and belt materials. Ideal for press room work and many special problem applications. Magnetic models also available.

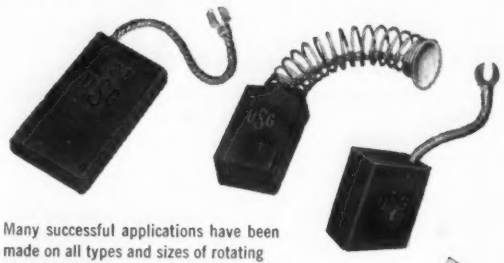
Write for illustrated reports of tough handling jobs solved by Rapistan Press-Veyors.

Rapistan conveying equipment

The RAPIDS-STANDARD CO., Inc.
602 Rapistan Building, Grand Rapids 2, Michigan

For more details circle NED-945 C1 on enclosed inquiry slip

ANY TYPE OR SIZE USG® BRUSH FOR FRACTIONAL HP OR INDUSTRIAL MOTORS



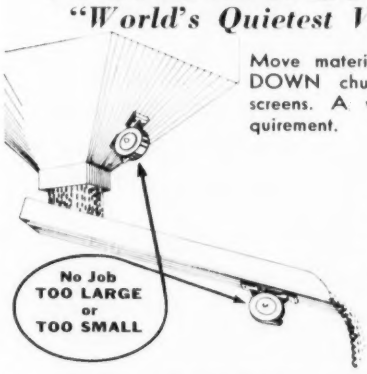
Many successful applications have been made on all types and sizes of rotating electrical equipment with USG motor and generator brushes and contacts manufactured by The United States Graphite Company. USG brushes are available in OEM production quantities or for replacement purposes in the following grades: carbon, carbon-graphite, electro-graphitic, graphite and metal-graphite. Special grades can be developed to meet your specific needs.

Write today for Engineering Handbook B-56 and the Brush Grade Supplement.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN
B-282-1

For more details circle NED-946 C1 on enclosed inquiry slip

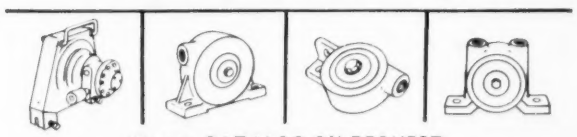
VIBROLATOR® VIBRATION INDUCERS
"World's Quietest Vibrators"



Move materials OUT of hoppers, DOWN chutes and THROUGH screens. A vibrator for every requirement.

FEATURES:
- LONG LIFE
- RUGGED
- POWERFUL
- UNIQUE DESIGN
- PATENTED THROUGHOUT
- UNCONDITIONAL GUARANTEE

FREE 30-DAY TRIAL ON ALL SIZES.
Stocking distributors coast-to-coast listed under VIBRATORS in the Yellow Pages.



42-page CATALOG ON REQUEST

FIND US FAST IN THE YELLOW PAGES

Manufactured by:
MARTIN ENGINEERING COMPANY
Specializing in Applied Vibration
155 Nedlow St., Neponset, Illinois

® VIBROLATOR is Martin Engineering's registered trade mark for vibration inducers and vibrator accessories.

For more details circle NED-947 C1 on enclosed inquiry slip

this NEW conveyor...

Rapistan's new APC (adjustable pressure) conveyor eliminates accumulation line pressure, makes assembly, processing, weighing, case sealing, order selection more efficient, safer for containers and materials.

Live roller type APC handles materials that can't be conveyed on wheel surfaces. Write for new bulletin illustrating industrial and warehousing applications.

The RAPIDS-STANDARD CO., Inc.
601 Rapistan Building
Grand Rapids 2, Michigan

Rapistan conveying equipment

For more details circle NED-948 C1 on enclosed inquiry slip

NEW and NEEDED!

SAFETY PLUNGER CANS

safe cleaning with flammable liquids . . . pressure forces measured fluid to dampen swab . . . FM approved . . . 1, 2 qt., 1 gal.

SAFETY BENCH CANS

for cleaning small parts safely, quickly . . . approved by Factory Mutual . . . 1, 2 qt., 2 gal. capacities.

Style I SAFETY CANS

approved by Underwriters Laboratories and FM . . . safe for handling all flammable liquids . . . 1, 2 qt., 1 gal. with trigger handle; 2½, 5 gal. with free-swing handle.

ORDER FROM YOUR SUPPLIER

Write for free catalog showing Complete Eagle Line . . . Eagle products are also available in Canada

EAGLE MANUFACTURING CO., Wellsburg, W. Va.

Serving the Trade Since 1894

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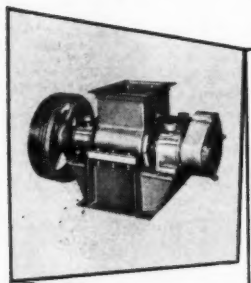


"ROBINSON" SAW TOOTH CRUSHERS SERVE VARIETY OF PROCESSING NEEDS

Young "Robinson" horizontal and vertical saw tooth crushers are widely used for processing bituminous coal, soft shale, phosphate rock, talc rock, asbestos, asphaltum, charcoal, shells, cork and a variety of foods and chemicals. Rugged, reliable service with extremely low maintenance. Bulletin C-360-1 on request.

pneumatic conveying ○ materials handling ○ mixing ○ sifting ○ cutting ○ grinding ○ crushing

The YOUNG Machinery Company, Inc. (Robinson Division) Muncy, Pennsylvania

Y/105

For more details circle NED-952 C1 on enclosed inquiry slip

WLS...

Will Lead to Savings!

This illustration (approx. ½ actual size) of an actual part produced by SPEEDTOOLING for one of our customers represented a savings of 83% over previous production methods.

Yes, WLS SPEEDTOOLING for small quantity stamping needs is a saver every time! A radical production advancement, it eliminates most of the cost required for permanent dies. Finished parts are produced to tolerances as close as those held by conventional methods costing ten times as much. When jobs are completed WLS SPEEDTOOLING is stored for future use.

Use WLS for production quantities up to 100,000 when low cost, fast delivery and possible design changes for virtually nothing, are important factors!

COMPLETE FACILITIES
- Blanking
- Forming
- Piercing
- Drawing
- Extruding
- Stenciling
- Tapping
- Countersinking
- Plating
- Machining
- Painting
- Grinding
- Welding

FREE

FOR THOSE MANUFACTURERS WHO ARE FACED WITH MANUFACTURING PROBLEMS WE OFFER A FREE BULLETIN ILLUSTRATING MANY STAMPINGS WE HAVE PRODUCED FOR MANUFACTURERS AS WELL AS A SAMPLE AND COST SUMMARY OF AN ACTUAL PART. WE ALSO OFFER FREE QUOTATIONS FROM YOUR BLUEPRINTS AT ANY TIME.

WLS STAMPING COMPANY

3287 E. 80th Street • Cleveland 4, Ohio

For more details circle NED-953 C1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Ceiling Fluorescent Lighting

Globe Illumination Co.—Designed for large area lighting, Skyway series of ceiling recessed fluorescent lighting fixtures includes 2 x 4-ft rectangle and 2, 3, and 4-ft squares in 2, 3, 4, and 6-lamp units. Series is fully illustrated in 40-page Brochure B-1 which also shows mounting methods, accessories, and trim details. Ten diffusing elements are available in the series.

For more details circle NED-954 C1 on enclosed inquiry slip

Infrared Heaters

Fostoria Corp.—Objects are heated directly by infrared rays in outdoor or hard-to-heat indoor areas with electric infrared comfort heaters described in 8-page Bulletin CH-100. Principles, advantages, and typical applications of this type of heating are discussed.

For more details circle NED-955 C1 on enclosed inquiry slip

High Vacuum Equipment

NRC Equipment Corp.—Condensed 8-page catalog summarized the complete NRC line of high vacuum mechanical and diffusion pumps, valves, gages, accessories, portable pumping systems, coaters, furnaces, electron beam welders, altitude chambers, and freeze drying equipment.

For more details circle NED-956 C1 on enclosed inquiry slip

Steel Selection Handbook

Climax Molybdenum Co.—"Three Keys to Satisfaction" is title of 77-page revised guide to combining sound design principles, proper selection of steels, and good heat treatment to obtain optimum economy and material performance. Steel section deals mainly with heat treated alloy steels used at tensile strengths below 200,000 psi, and does not include the high-strength low-alloy structural, stainless, or tool steels.

For more details circle NED-957 C1 on enclosed inquiry slip

Evaluating Vibratory Finishers

Vibraslide, Inc.—"Considerations in the Evaluation of Vibratory Finishers" is title of 8-page bulletin which discusses the role of vibratory finishing in achieving parts of high tolerance and polish. Three examples given illustrate the increase of productivity in vibratory equipment.

For more details circle NED-958 C1 on enclosed inquiry slip

Drive Tensioners & Idlers

Brewer Machine & Gear Co.—Proper tension on both chain and belt drives is maintained by the Universal drive tensioner. It eliminates shock loading from excessive chain vibration and horsepower loss through belt slippage. Base mounted S-Series and shaft mounted A-Series tensioners are described in 4-page bulletin. Bronze bushed idler pulleys and sprockets are also covered.

For more details circle NED-959 C1 on enclosed inquiry slip

STEINEN

INDUSTRIAL SPRAY NOZZLES

NEW FREE CATALOG . . .

32 illustrated pages of engineering data, including nozzle spray characteristics, capacities, applications and simplified nozzle selection tables.

MORE NEW INFORMATION . . .

BULLETINS: Square spray and solid jet patterns.

DATA SHEETS: Leak-proof adjustable joint, phosphatizing nozzle and roof cooling.

COMPARISON CHARTS: Shows nozzle interchangeability.

Write today . . . take advantage of Steinen's complete engineering service.

WM. STEINEN MFG. CO.
INDUSTRIAL NOZZLE DIVISION
39-45 Bruen Street Newark, New Jersey

For more details circle NED-960 C1 on enclosed inquiry slip

for Straining and Screen Applications Often Lower Costs

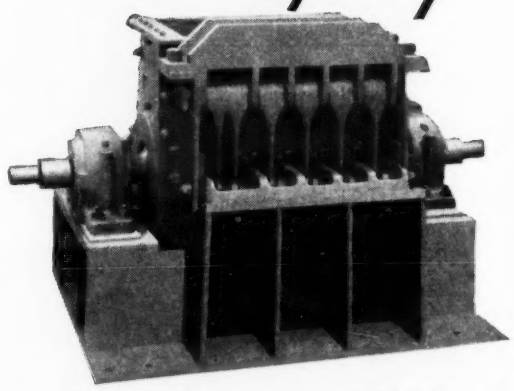
In straining and screening, Cleveland Wire Cloth has engineered many custom-built applications to meet specialized requirements and lower costs. Chances are a new alloy, unusual mesh size or weave may lead the way to new efficiencies and economies. Cleveland stands ready to furnish samples and make recommendations, based on 40 years experience in weaving accurate "working openings" in wire cloth and fabricating wire cloth products. Check your requirements — send your specification today — ask for free Strainer Bulletin #7.

THE CLEVELAND WIRE CLOTH & MFG. CO.

3573 East 78th Street • Cleveland 5, Ohio

For more details circle NED-961 C1 on enclosed inquiry slip

HOG GRINDS Anything!



The NEW KC MODEL of the Montgomery BLO*HOG grinds bark—bricks — wire and steel strapping — nails — bolts — rubber tires — paper — plaster board — tile — dunnage — Crossties with Spikes —and many other items for fuel or automatic waste disposal systems.

Sizes range from 21" with capacity near 20,000 lbs. per hour to 57" model with 100,000 lbs. per hour capacity.

BUILT-IN PROTECTION AGAINST HEAVY TRAMP STEEL. PUNCH AND DIE ACTION — "DO THE JOB" GUARANTEE.

Manufactured by

JACKSONVILLE BLOW PIPE CO.

P.O. Box 3687 • Jacksonville, Florida
Telephone EL 5-5671

For more details circle NED-962 C1 on enclosed inquiry slip

how to apply low cost VARIABLE SPEED to your product

This 16-page catalog covers a wide range of practical information on how to get the most from your electric motors . . . variable speed, instant control, reversing, increasing torque, clutching, presetting RPM's, remote control, measuring torque . . . and other items. It also illustrates and describes Zero-Max variable speed controls for fractional horsepower motors.

SEND FOR YOUR FREE COPY NOW!

ZERO-MAX The ZERO-MAX Company

2855 Harriet Ave. S., Minneapolis 8, Minn., TAylor 7-5521

For more details circle NED-963 C1 on enclosed inquiry slip

DRUMS . . . Pick Up, Move, Stack, Dump – Easier, Faster

with New

Weld-Bilt HY-BOY Verti-Lift Portable Drum Elevator

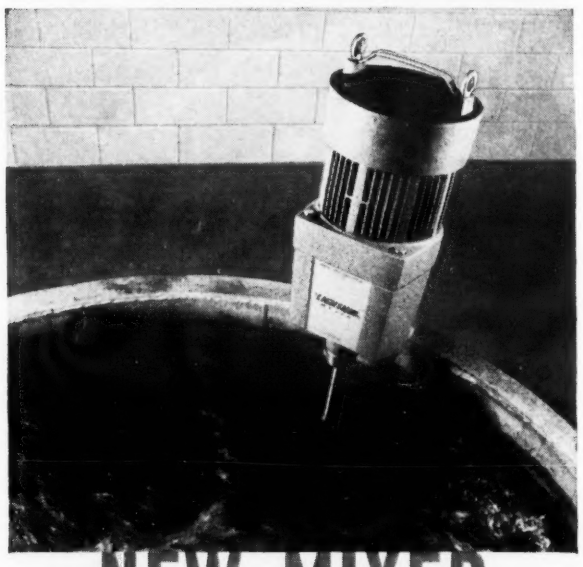
"Weld-Bilt" products

Great time-savers, at new low cost, HY-BOY "Verti-Lifts" load, unload, store, stack drums in less time and effort. More important—they provide fast, safe front or side tilting mechanism for efficient "last-drop" emptying. Electro-Hydraulically operated, with heavy duty battery, built-in charger, capacity, 1500 lbs., available in models for lifts from 60" to 112".

Write for HY-BOY Catalog CM-558 and prices on new Drum Handling HY-BOY Verti-Lift Portable Elevators.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

For more details circle NED-964 C1 on enclosed inquiry slip



NEW MIXER

Handles many jobs on less power

You won't have to lubricate it for five years.

You can't overload the gear drive.

It comes with a chemical plant motor as *standard,* at no extra cost.

You don't need three hands to remove the shaft.

And it mixes fluids like no portable mixer you've ever seen. Delivers up to 45% more fluid flow in gear-drive models. Higher impeller head in direct-drive models. Actually lets you handle many mixing jobs with a *smaller* mixer drawing *less power.*

This all-new LIGHTNIN Portable Mixer is ready for you now, in sizes from 1/8 to 3 hp. And the price is right. Your LIGHTNIN Mixer representative will gladly show it to you. You'll find his name in Thomas' Register. Or write us for descriptive Bulletin B-520.

IN FIXED MOUNTINGS, TOO— Get the same all-new advantages in permanent-mounting LIGHTNIN Mixers for open and closed tanks. A complete line, sizes from 1/4 to 3 hp. For details on these, send for Bulletin B-521.

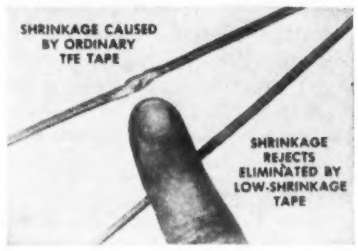
Lightnin® Mixers
MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-c Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.
In Europe: Lightnin Mixers, Ltd., Poynton, Cheshire, England

For more details circle NED-965 C1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

LOW-SHRINKAGE TAPE withstands high temperatures



Improved Teflon skived tape will show no more than a 2 per cent change in any dimension when heated to 730° F for 15 min. It is suited for use in making small diameter cable or where prolonged exposure to high temperature is required without splitting or cracking of tape. Thicknesses range from 1 mil up and widths from 1/4 to 12 in. Tensile strength at 0.003 in. is 4000 psi minimum and elongation is 300 per cent minimum. Dielectric strength is 2700 v per mil minimum. • **Dixon Corp.,** Bristol, R. I.

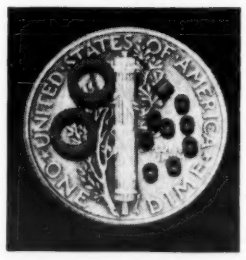
For more details circle NED-966 C1 on enclosed inquiry slip

PRELUBRICATED STRIP STEEL eases forming and die separation

Precoated with a solution combining phosphate and animal fats, Pre-Lubricated Strip steel affords cost and production savings in severe forming operations. The dual-purpose lubricant speeds up deep drawing, prevents die marks, allows use of lower quality steel, supplies progressive die lubrication, and protects against indoor corrosion. Phosphate coating not only acts as an anchor for the fatty film, but improves separation of steel from die or forming tool. Neither coating interferes with welding. Pre-Lubricated Strip is available either in coils up to 22 in. wide, or cut lengths up to 24 in. • **Pittsburgh Steel Co.,** Thomas Strip Div., Warren, Ohio.

For more details circle NED-967 C1 on enclosed inquiry slip

SUBMINIATURE CERAMICS components withstand heat, shock



Parts and components of Diamonite, a 97-per cent alumina oxide, are now made in subminiature form to customers' specifications. The smaller parts pictured measure 0.05 OD x 0.03 ID x 0.045 in. long. They possess high dielectric strength at high frequencies and elevated temperatures, and are nonmagnetic, nonconductors of electricity, vacuum tight, and readily metallized. They are economically fabricated on a volume basis. • **Diamonite Products Mfg. Co.,** Shreve, Ohio.

For more details circle NED-968 C1 on enclosed inquiry slip

Hardness Readings in 2 seconds!

Webster PORTABLE Hardness Testers FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity 1/4". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

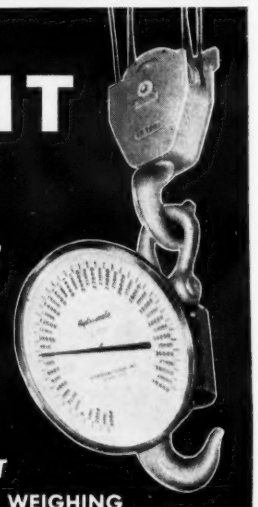
Other models available

WEBSTER INSTRUMENTS, INC. Dept. N, 11856 Mississippi Ave. Los Angeles 25, California

For more details circle NED-970 C1 on enclosed inquiry slip

STOP WEIGHT LOSS!

with a ® HYDROSCALE your crane or hoist will weigh ANYTHING it can lift



THE EASIEST AND FASTEST METHOD FOR INDUSTRIAL WEIGHING

110 MODELS from 500 lb. to 200,000 lb. capacity

TYPICAL WEIGHING APPLICATIONS. Check weighing while loading or unloading, batching, foundry charging, inventory, production control, and protecting your equipment from overloading.

HYDROSCALES are guaranteed to be free of defects in workmanship and materials.

Write for Catalog
"world's largest manufacturer of crane scales"

HYDROWAY SCALES, INC.
31288 Stephenson Highway • Royal Oak, Michigan

For more details circle NED-971 C1 on enclosed inquiry slip

Increase the scope of your whiteprint facilities . . . with the Anken "27" PROCESSOR

Here's an easy way for reproduction departments to make whiteprint intermediates, work prints, general copies, etc., by the transfer process. Just expose the original and UV Negative—a special, transfer negative designed for whiteprint machines—in any whiteprinter. One-step, single-solution developing is done in the Anken "27" Processor . . . and the positive copy can be on your choice of over 20 different types and weights of paper and film. Process any size up to 27 inches wide by any length.

We've prepared a special case history of how one large firm uses the "27" and whiteprint exposing units for big savings. Return the coupon—today—for your free copy.

ANKEN FILM COMPANY
NEWTON, NEW JERSEY

Name _____

Company _____

Address _____

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Modern Methods Cost Less

SAVE MATERIAL AND TIME WHEN YOU CUT PAPER, LEATHER, PLASTICS, OTHER SOFT STOCK

Whatever soft materials you cut, Hobbs-Jacques Hand Shears do the job quickly and accurately in one easy stroke. Even if it's only an occasional operation, modern "engineered cutting" equipment saves the cost of waste materials and time.

Hobbs-Jacques Hand Shears include a complete line for widths 16" to 10'. Bench and table models, with and without gauges.

Write for "Engineered Cutting" brochure. No obligation!

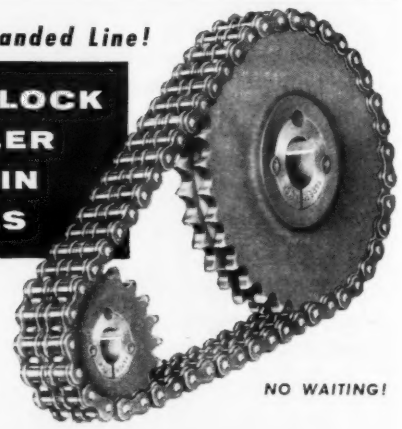
HOBBS MANUFACTURING CO.
EST 1883 410 SALISBURY ST., WORCESTER 5, MASS.
Direct Sales Offices in Irvington, N. J., Columbus, O., Chicago, Ill. and Los Angeles, California
Representatives in Greenville, S. C. and Toronto, Ont., Canada

WINDERS
HAND AND POWER SHEARS
DIE PRESSES
SLITTERS

For more details circle NED-972 C1 on enclosed inquiry slip

New Expanded Line!

TAPER-LOCK ROLLER CHAIN DRIVES



NO REBORING!
NO KEYSEATING!
NO WAITING!

Dodge Taper-Lock Sprockets and Dodge Roller Chain —now in Single Strand, Double Strand, Double Pitch Transmission Series, Double Pitch Conveyor Series, Plate Sprockets. And Standard Attachments!

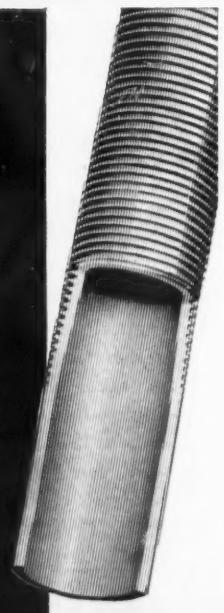
This new expanded line gives you Taper-Lock advantages for most all of your sprocket needs. No reboring—no keyseating—no waiting! And Taper-Lock Bushings are reuseable—interchangeable. Write for bulletin.

DODGE MANUFACTURING CORPORATION
2100 Union Street, Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

For more details circle NED-973 C1 on enclosed inquiry slip

NEED HELP ON HEAT TRANSFER?



Call for a Wolverine Heat Transfer Specialist to discuss Wolverine Trufin®, the integral finned tube for increased heat transfer!

Wolverine Trufin is available in Canada through the Unifin Tube Division, London, Ontario.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. K, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper — Copper Alloys — Aluminum — Special Metals

For more details circle NED-974 C1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Fluid Line Strainers

Leslie Co.—Over 600 standard self-cleaning strainers for steam, air, gas, and liquids, including cryogenic services, are detailed in 12-page Catalog 6008. Wide selection of body materials and end connections is shown. Pressure ratings range from 150 to 2500 psi for Y types in 1/8 to 10-in. sizes and start-up strainers from 6 to 16 in.

For more details circle NED-975 C1 on enclosed inquiry slip

Riveting Tools

Geo. F. Marchant Co.—Revised edition of Catalog 60 utilizes 145 sketches to illustrate New Process punches, dies, rivet sets, and compression riveter dies. A quick reference stock list shows a selection of all tools.

For more details circle NED-976 C1 on enclosed inquiry slip

Industrial Hose Fittings

Lenz Co.—Ordering of hose fitting assemblies is simplified with 8-page color-coded catalog. Listed fittings are for medium and high pressure industrial applications using single and double wire braid hose.

For more details circle NED-977 C1 on enclosed inquiry slip

Plastic Die Steels

Vanadium-Alloys Steel Co.—Brochure describing the properties and selection of plastic die steels shows how to match die steels to their particular jobs. Table of mold properties and simplified heat treating instructions facilitates die and mold steel selection.

For more details circle NED-978 C1 on enclosed inquiry slip

Steel Products for Business & Industry

Lyon Metal Products, Inc.—Office chairs, a new 42-in. high bookcase, slotted angle accessories, and a wide selection of shop equipment are among steel products for business and industry which are depicted in use in 100-page general Catalog 100-K. Specifications are covered.

For more details circle NED-979 C1 on enclosed inquiry slip

Data on Relays

American Machine & Foundry Co., Potter & Brumfield Div.—Comprehensive engineering data on 42 different series of relays are presented in 16-page industrial Catalog 60. The various relays are divided into four major groups for military, telephone type, power, and general purpose applications.

For more details circle NED-980 C1 on enclosed inquiry slip

Selection Guide for Silicone Rubber

General Electric Co., Silicone Products Dept.—Revised "Silicone Rubber Selector" Chart No. CDS-145C is offered to assist designers and engineers in selecting the proper type of silicone rubber for their particular requirements. Presented is information on applications, typical properties, primary classes, and standard industry and military specifications.

For more details circle NED-981 C1 on enclosed inquiry slip

Preventing Machine Vibration

Hamilton Kent Mfg. Co., Rexon Mount Div.—Rubber-in-shear is employed in Rexon vibration mounts for machines and components to isolate vibration and suppress noise. A complete range of sizes of these machine mounts is available with capacities ranging from 3-25 to 3800-20,000 lb. An 8-page engineering bulletin gives complete specifications.

For more details circle NED-982 C1 on enclosed inquiry slip

Solving Flexible Coupling Problems

Falk Corp.—Engineering and application data on the complete line of torsionally resilient Steelflex couplings are contained in 32-page Catalog 4100. How the unique grid-groove coupling design protects machines against shock, vibration, and misalignment is shown. Coupling ratings range to 130,000 hp at 100 rpm.

For more details circle NED-983 C1 on enclosed inquiry slip

FHP Motors

Reliance Electric & Engineering Co.—Duty Master fractional horsepower motors are available in capacitor, split phase, polyphase, and repulsion-induction types with open, enclosed, fan-cooled, and explosionproof designs, and in ratings of 1/20 to 3/4 hp. Full performance and design information on these motors is given in 8-page illustrated Brochure B-2514.

For more details circle NED-984 C1 on enclosed inquiry slip

FAST FACTS ON BLAW-KNOX GRATING

A NEW DATA FILE for fast information on designs and specifications of Blaw-Knox Grating and Stair Treads

The whole story compacted into eight pages for quick reference ■ New specifications ■ Latest installation methods ■ New fabricating methods

To get your FREE copy, write for Bulletin 2581

Blaw-Knox Equipment Division
Pittsburgh 38, Pennsylvania

BLAW-KNOX
GRATING

For more details circle NED-985 C1 on enclosed inquiry slip

THE HP5 SERIES CYCL-FLEX FOR TIME CONTROL

Don't let automation troubles get you down! . . . use our New Cycl-Flex for TIME CONTROL functions. Should your automatic controls fail for any reason, you can trace your trouble by plugging-in a spare timer. Movement of the TIME pointer indicates whether trouble is in the input or the output circuits.

Write for Bulletin 125 or call your local Eagle Representative. He's listed in Sweet's Product Design File, Section 7d, or in Thomas Register.

SPECIFICATIONS • 10 sec. to 60 hr. dial • 2 instantaneous switches • 2 delayed switches • 12 terminals • Resets in 1/3 sec. Mounts in 3 1/8" dia. hole

BLISS
EAGLE SIGNAL COMPANY • Moline, Illinois
INDUSTRIAL DIVISION
A DIVISION OF THE GAMEWELL COMPANY, AN E. W. BLISS COMPANY SUBSIDIARY

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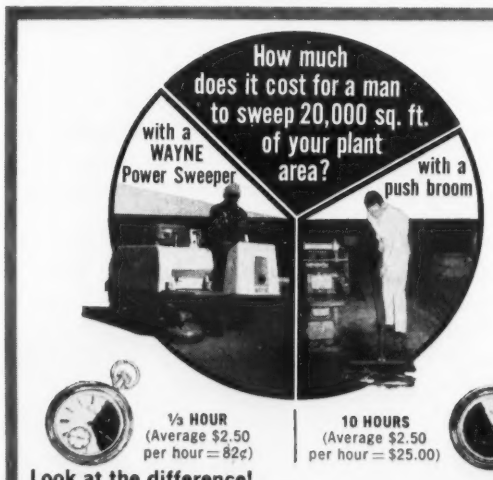

Look at the difference!

With a Wayne Power Sweeper, you get the job done at 1/30th the cost, in 1/30th the time! It takes only a year for the Wayne to pay for itself, even on a minimum wage basis. And—you gain systematic, ultra-efficient power sweeping in the bargain.

Put your plant cleaning on a paying basis—*switch to power!* There's a wide range of models from which to choose . . . one suited to *your* particular plant requirements. *Get the facts . . . write for the Wayne Power Sweeper brochure today!*

WAYNE MANUFACTURING CO.
3375 East Lexington Street, Pomona, California
POMONA • CHICAGO • NEWARK

For more details circle NED-987 C1 on enclosed inquiry slip

U.S. Flex at WORK! but Specifications Classified!

Photo of the Atomic Sub U.S.S. TRITON courtesy of United States Navy and General Dynamics Corp.

A tough Navy job! The assignment: meet the exacting and rigid requirements for auxiliary steam lines in an A-Sub! *U.S. Flexweld Hose did it!*

This same U.S. Flexweld Hose serves you and other industries day-after-day in commercial use *at no premium for exceeding your specifications.*

Write us today about your tough problems. Give our engineers all the facts.

U. S. FLEXIBLE TUBING CO.
215 MAIN STREET, BARTLETT, ILLINOIS

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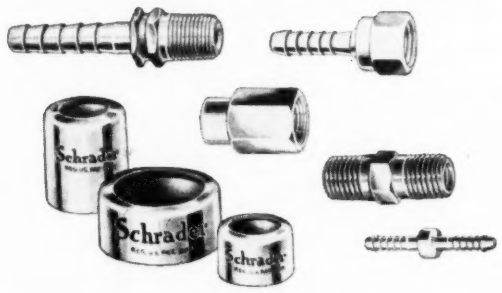
NOW! FITTINGS AND FERRULES FOR AIRTIGHT CONNECTIONS



You can install compressed air systems as easily as electricity. Schrader Airline Fittings, Ferrules and Tools make neat, efficient, professional air installations easy. In addition to the threaded hose fittings and hose ferrules shown here, Schrader also produces the finest air hose, fitted hose lengths, ferrule contracting tools and hose reels... including new air tool hose reels.

These products make positive airtight seals that will not pull or blow out, no sharp edges to catch, scratch or cut. **Send for informative literature which shows all these fine products with specifications and directions for use.**

Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

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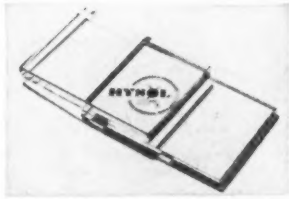
NEW MATERIALS AND PROCESSES

CLEAR EPOXY ADHESIVE packaged in two flexible tubes



Room temperature curing No. 0151 Epoxi-Patch adhesive is "reading clear." It is suited for glass-to-glass, Pyroceram-to-glass, and metal-to-glass uses, and for repair and bonding of printed circuits, strain gages, and similar products. Both resin and hardener are packaged in flexible tubes from which equal length beads are squeezed out and mixed. • **Hysol Corp.**, 322 Houghton Ave., Olean, N. Y.

For more details circle NED-991 C1 on enclosed inquiry slip

VINYL-TO-METAL ADHESIVES four types for various applications

Vinyl films that simulate leather, textiles, wood grains, and marble are bonded to steel, aluminum, and magnesium metals using Vy-Metal vinyl-to-metal adhesives. Four types are available: A curing adhesive with heat resistance and hardness that are controlled by varying curing time and temperature; a simple-to-use thermoplastic adhesive; a heat resistant adhesive for very deep draws which allows stress distribution; and a thermosetting adhesive with high heat resistance, good adhesion, and good deep drawing properties. All will bond vinyl to metal firmly enough to tear the film upon separation. • **National Starch & Chemical Corp.**, 750 Third Ave., New York 17, N. Y.

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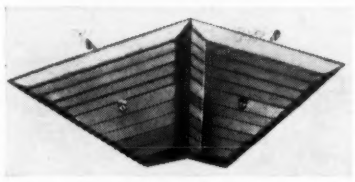
POROUS STAINLESS PANELS speed flow of bulk materials



Powdered or fine materials which tend to bridge or cake in overhead hoppers are made to flow smoothly and uniformly by lining the hopper neck with porous stainless steel panels, then aerating the panels with inert gas or compressed air. Gas is blown through the panel linings as well as optional porous probes installed further up the bin wall. Powder instantly becomes fluid and flows smoothly to weigh feeders. Flow rate can be increased as much as 48 times, with ultimate rates of several thousand pounds per hour possible. The uniform porosity of the sintered stainless panels assures fine gas dispersion without product contamination. • **Pall Corp.**, Micro Metallic Div., 30 Sea Cliff Ave., Glen Cove, N. Y.

For more details circle NED-993 C1 on enclosed inquiry slip

RENEW WHOLE FLOORS REPAIR FLOOR HOLES
FASTER...EASIER...BETTER ...at Lower Cost!

use SPEED-PATCH
WORLD'S FINEST, FASTEST, FLOOR FIXER!

Millions of pounds used throughout industry. PROVED unequalled for renewing whole floors and repairing floor holes. Comes ready-mixed. Easy to apply. No waiting to set or dry. Two grades; Speed-Patch Regular, for covering large areas, wide holes and cracks; Speed-Patch Fine, for shallow holes, thin cracks, etc. Send for details.

NO SKILL REQUIRED
EASILY APPLIED BY ONE MAN
No traffic detours, no waiting truck over it immediately

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

For more details circle NED-994 C1 on enclosed inquiry slip

NEW SAW CUTS 1" STEEL BAR IN 23 SECONDS!

NEW SKIL MODEL 701 ... World's only portable electric metal-cutting hacksaw!

Two speeds—1000 and 1400 strokes per minute for fast cutting of different gauges and densities of metals, from hardest alloys to mild steels and non-ferrous metals.

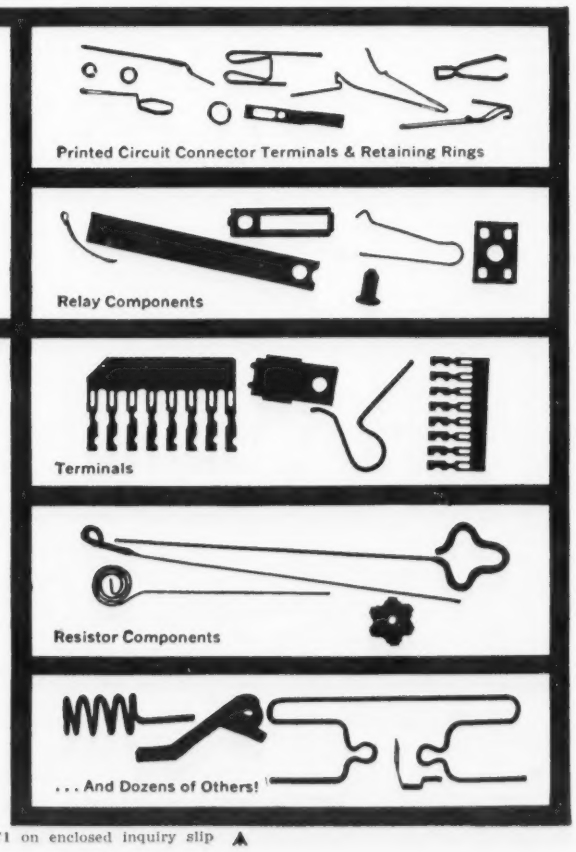
Example: Cuts ¼" x 1½" stainless steel angle in only 65 seconds; cuts 2" cast iron pipe in less than 2 minutes.

Call your Skil distributor for a demonstration. Look under "Tools-Electric" in the "Yellow Pages." Or Write: Skil Corporation, Dept. 119C, 5033 Elston Ave., Chicago 30, Illinois.

SKIL ... and SKILSAW POWER TOOLS

For more details circle NED-995 C1 on enclosed inquiry slip

CUSTOM ELECTRONIC COMPONENTS
ENGINEERED WITH: CREATIVITY INGENUITY • PRACTICALITY



Representative *custom* components pictured at the right are typical of the precision electro-mechanical parts manufactured by Stanley-Humason, Inc. for the electronics and electrical industries.

Can we serve you in this capacity?

For additional information, write for your copy of Stanley-Humason's 4-page circular, "Component Parts" . . . better still, send us your prints or samples for prompt quotations.

STANLEY
STANLEY-HUMASON, INC.
A Subsidiary of The Stanley Works
Dept. C, 58 Stafford Avenue, Forestville, Connecticut

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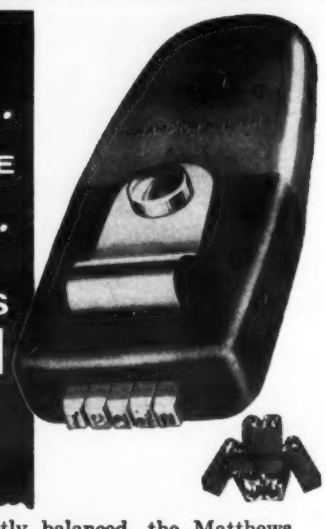
MARK IT CLEARLY... CHANGE TYPE FASTER... with MATTHEWS CHAMPION STEEL TYPE HOLDER



Sturdily built, perfectly balanced, the Matthews Champion Steel Type Holder insures perfectly aligned, clear cut marking. Type changes are fast and easy, with the patented Matthews spring clip assembly. Type faces are precision-engraved on highest quality alloy tool steels.

Write for Bulletin 146-A29

MATTHEWS MARKING PRODUCTS

JAS. H. MATTHEWS & CO.
3943 Forbes Ave. • Pittsburgh 13, Pa.

For more details circle NED-996 C1 on enclosed inquiry slip

in the oil fields they call this Catawissa Union a TIME AND TOOL SAVER

...because it's applied with either a hammer or a wrench!

Standard: 1" to 4" sizes, 3000-lb. service.
Double Extra Heavy: 1" to 2" sizes, 6000-lb. service.

Catawissa PERFECT SEAL LUG NUT UNION

You may find it advantageous, too — for piping purposes requiring a quick opening and quick closing union. The triangular shaped "lug nut" eliminates distortion or breaking — its straight surface prevents a damaging, glancing hammer blow. Quick, easy application without thread crossing or sticking PLUS Catawissa's exclusive PERFECT SEAL and 3-to-1 Safety Factor!

THE MOST COMPLETE LINE OF UNIONS ON THE MARKET ... AVAILABLE AT LEADING INDUSTRIAL SUPPLY FIRMS

— write for free catalog —

CVF CATAWISSA VALVE & FITTINGS CO.
CATAWISSA, PENNSYLVANIA 1504

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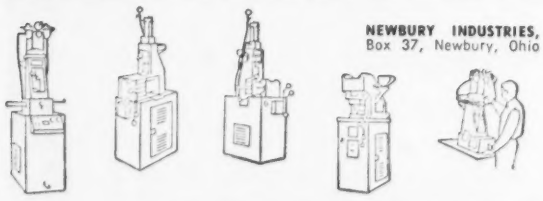
Project Engineers:

THIS FREE BOOKLET IS A "MUST"...

If your problems involve injection molding of plastic parts up to 2 oz.

Shows you how MINI-JECTORS® cut major costs. Produce: *QUICKER*—thousands of molded items often made before big press tooling is off design board; *BETTER* — award-winning quality and precision even with molds involving inserts or loose cores; *FOR LESS*—develop and produce molded items at fraction of big press tooling costs. Shows latest methods of developing and producing (up to 2 oz.) items in *all* thermoplastics, including Nylon. MINI-JECTOR machines from under $1,000 complete. Mold blanks as low as $29.50. *One user saved over $4,000 mold costs alone on one item.*



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Box 37, Newbury, Ohio

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Please send me your new free catalog
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Company .....
Address .....
City ..... State .....
For convenience clip coupon to your letterhead and mail

For more details circle NED-998 C1 on enclosed inquiry slip

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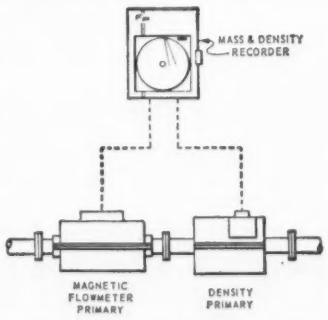

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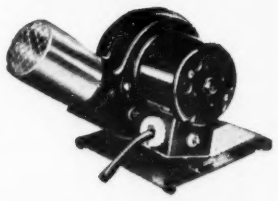

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NEW LITERATURE and CATALOGS

Drives & Speed Instruments

Curtis & Marble Machine Co., Barbour Stockwell Instruments Div.—6-page illustrated folder is descriptive of Reliance tachometers, adapters, flexible shafts, clutches, and gear boxes.

For more details circle NED-1007 C1 on enclosed inquiry slip

Motors for Limited Space

General Electric Co.—Thinline motors for limited-space applications are available in 1 to 5-hp ratings in dripproof and enclosed designs. Design details, performance features, and application suggestions are given in 8-page illustrated Bulletin GEA-6927B.

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Enclosed Limit Switches

W. L. Maxson Corp., Unimax Switch Div.—16-page Catalog 30-1 gives details of horsepower-rated KL Series of heavy duty, metal-cased switches and the double-break Type BK-1 switch. Listings include limit, safety, and aircraft switch types.

For more details circle NED-1009 C1 on enclosed inquiry slip

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For more details circle NED-1010 C1 on enclosed inquiry slip

Precision Gears & Instrument Clamps

Perfect Gear & Instrument Corp.—128-page Catalog 5A gives dimensions and other data on a complete line of stock precision I, II, and III gears and on precision instrument clamps for prototype and production use.

For more details circle NED-1011 C1 on enclosed inquiry slip

Flow Control & Metering

B-I-F Industries, Inc.—Details of a complete line of Chronoflo Telemetering equipment and systems for automatic control, and distant or in-plant transmission of physical quantities and operating data are given in 8-page engineering Reference No. 230.20-2.

For more details circle NED-1012 C1 on enclosed inquiry slip

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Valeron Corp., Valenite Metals Div.—Throwaway inserts are used in Kamset precision boring cutters to develop fine finishes and boring tolerances in tenths. Tools and accessories for diameters up to 4.100 in. are described in 24-page Catalog KS-60A.

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For more details circle NED-1015 C1 on enclosed inquiry slip

Toolroom Grinding Practices

Macklin Co.—"Toolroom Grinding" is title of 32-page guide book on grinding wheels, their selection, and use. Sharpening procedures for various tools are discussed, and typical set-ups for various grinding operations are shown. Wheel recommendations are included.

For more details circle NED-1016 C1 on enclosed inquiry slip

How to Plan & Install a Conveyor System

Conveyor Systems, Inc.—20-page Bulletin 500 is a guidebook on the above subject. Data are given on portable or stationary; gravity, wheel, or roller; and bulk material conveyors, as well as on packaging handling units and systems, custom-engineered systems and equipment, conveyor accessories, and overhead systems. Check lists, scale layout paper, typical installations, and related technical data complete this useful manual.

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For more details circle NED-1019 C1 on enclosed inquiry slip

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H. M. Harper Co.—A fundamental and clear explanation of the different strengths involved in metal bolts and nuts, plus the inside story of how those strengths are developed, is given in 14-page booklet. Also discussed is how Harper produces nuts and bolts of identical strength factors. Included is a glossary of 29 commonly used metallurgical terms.

For more details circle NED-1020 C1 on enclosed inquiry slip

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For more details circle NED-1021 C1 on enclosed inquiry slip

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has 600 to 1800° F active range

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▲ For more details circle **NED-1022 C1** on enclosed inquiry slip ▲

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acrylic coating resists weathering

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▲ For more details circle **NED-1023 C1** on enclosed inquiry slip ▲

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for all metal grinding uses

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▲ For more details circle **NED-1024 C1** on enclosed inquiry slip ▲

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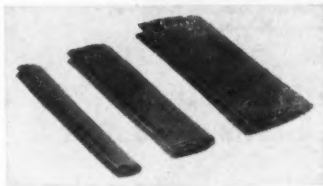
protects narrow edges and flanges



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▲ For more details circle **NED-1027 C1** on enclosed inquiry slip ▲

SPRAY WASH CLEANER
for steel, copper, brass, aluminum

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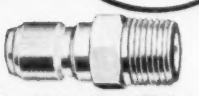
▲ For more details circle **NED-1028 C1** on enclosed inquiry slip ▲

HANSEN SERIES ST

STRAIGHT THROUGH QUICK-CONNECTIVE COUPLING... WITHOUT SHUT-OFF VALVES



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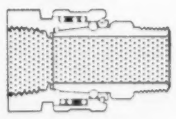

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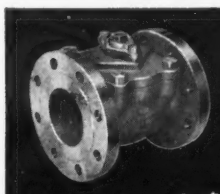

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4. DOUBLE SEATS	√	√	√	√	√	√
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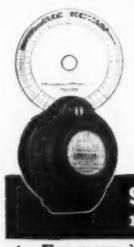

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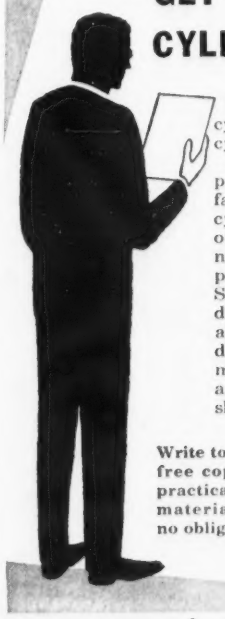


■ Hannifin simplifies hydraulic cylinder selection by tailoring your cylinder to your circuit.

For 2,000 psi systems (3,000 psi non-shock) we offer our famous heavy-duty Series "H" cylinders. For circuits operated off 1,000 psi pumps, there's the new Series "L", the "thousand-pound" line, and the "universal" Series "U". Get our complete dimensional data and prices on all three lines of Hannifin hydraulic cylinders. New price sheets make it easy to figure your costs and tell you when you can expect shipment.

Write today for your free copies of this practical reference material. There is no obligation.

PARKER HANNIFIN CORPORATION

HANNIFIN COMPANY
A DIVISION
527 South Wolf Road • Des Plaines, Illinois
PNEUMATIC AND HYDRAULIC SYSTEM COMPONENTS

3191-FH

▲ For more details circle **NED-1032 C1** on enclosed inquiry slip ▲

NEW decorative patterns

H&K PERFORATED MATERIALS

The H & K line of perforated materials offers many contemporary and traditional designs, available in steel sheets for immediate shipment from stock. There is also a vast selection of patterns and open areas which can be custom fabricated in most metallic and nonmetallic materials, from existing dies to your specification.

FIND NEAREST H&K AGENT in the Yellow Pages — Listed Under "Perforated Metals"

Send for General Catalog 75 and/or Stock List Brochure

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • New York Office and Warehouse
5658 Fillmore St., Chicago 44 — 114 Liberty St., Dept. NED, New York

For more details circle NED-1004 C1 on enclosed inquiry slip

SEND FOR FREE CATALOG OF COMPLETE LINE OF RUSCOE INDUSTRIAL ADHESIVES

RUSCOE ELIMINATES YOUR BONDING HEADACHES!

DISTRIBUTORS OF:
ALUM-O-BOND
RUSCOE EPOXY
SAFE-T-GLUE
"T" FILM (Thermosetting Tape)
And a complete line of INDUSTRIAL CEMENTS

W. J. RUSCOE CO.
475-485 Kenmore Blvd. Akron 1, Ohio

For more details circle NED-1005 C1 on enclosed inquiry slip

Save Time, Money, Labor

find cracked parts quickly, easily, with MAGNAFLUX Spotcheck® DYE PENETRANT INSPECTION

HERE'S WHY
Cracks, pores and defects open to the surface can cause rejects or failure in service. In parts or machinery this can mean costly repairs, prolonged downtime, extensive damage, even loss of life! Cracks can be eliminated thru inspection at any stage in manufacture, — or during maintenance overhaul.

HERE'S HOW
Inspect with easy-to-use Spotcheck. Dye penetrant inspection becomes as simple as pushing a button. All materials available in spray can and Fire-Safe — cleaner-dye remover, penetrant, developer. Defects are clearly defined as bright red marks against the white of the developer. Works on any solid material! Bulk materials also available, up to 55 gallon drums.

NOW — Fire-Safe MATERIALS at same low prices

COMPLETE SK-3 KIT only $36.00 U.S.A. only F.O.B. our plant Chicago, Illinois

Everything you need in handy, rugged steel carrying case. 2 spray cans Penetrant, 2 spray cans Developer, 4 spray cans Cleaner-Dye Remover, instruction book, cleaning cloth, wire brush. ORDER FROM YOUR DISTRIBUTOR, OR DIRECT!

MAGNAFLUX CORPORATION • 7349 W. Ainslie Ave., Chicago 31, Ill.
☐ Please send me ____ SK-3 kits at $36.00 each, F.O.B. Magnaflux plant Chicago.
☐ Send FREE bulletin only. Include: low Spotcheck material prices in bulk.
Name ____ Title ____
Company ____
Address ____
City ____ Zone ____ State ____

For more details circle NED-1006 C1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Drives & Speed Instruments

Curtis & Marble Machine Co., Barbour Stockwell Instruments Div.—6-page illustrated folder is descriptive of Reliance tachometers, adapters, flexible shafts, clutches, and gear boxes.

For more details circle NED-1007 C1 on enclosed inquiry slip

Motors for Limited Space

General Electric Co.—Thinline motors for limited-space applications are available in 1 to 5-hp ratings in dripproof and enclosed designs. Design details, performance features, and application suggestions are given in 8-page illustrated Bulletin GEA-6927B.

For more details circle NED-1008 C1 on enclosed inquiry slip

Enclosed Limit Switches

W. L. Maxson Corp., Unimax Switch Div.—16-page Catalog 30-1 gives details of horsepower-rated KL Series of heavy duty, metal-cased switches and the double-break Type BK-1 switch. Listings include limit, safety, and aircraft switch types.

For more details circle NED-1009 C1 on enclosed inquiry slip

Threaded Inserts for Soft Materials

Fastener Products, Inc.—Two different types of threaded inserts are described in 4-page bulletin entitled "Inserts." The Push-Insert is quickly installed with an air or arbor press and seats by expansion from a tapered plug. The Taper-Thread insert is placed in a prepared hole and expands when the screw is driven. Both are usable in plastic and soft metal parts.

For more details circle NED-1010 C1 on enclosed inquiry slip

Precision Gears & Instrument Clamps

Perfect Gear & Instrument Corp.—128-page Catalog 5A gives dimensions and other data on a complete line of stock precision I, II, and III gears and on precision instrument clamps for prototype and production use.

For more details circle NED-1011 C1 on enclosed inquiry slip

Flow Control & Metering

B-I-F Industries, Inc.—Details of a complete line of Chronoflo Telemetering equipment and systems for automatic control, and distant or in-plant transmission of physical quantities and operating data are given in 8-page engineering Reference No. 230.20-2.

For more details circle NED-1012 C1 on enclosed inquiry slip

Precision Boring Tools

Valeron Corp., Valenite Metals Div.—Throwaway inserts are used in Kamset precision boring cutters to develop fine finishes and boring tolerances in tenths. Tools and accessories for diameters up to 4.100 in. are described in 24-page Catalog KS-60A.

For more details circle NED-1013 C1 on enclosed inquiry slip

how a $30 purchase saves you thousands in marking and shipping costs!

With as little as $30 worth of ALGENE marking equipment, many firms have made profits of several thousands of dollars due to savings in labor, time and inventory of printed boxes.

The self-inking, light weight ALGENE Printer performs 9 times faster than stencilling, labelling, or rubber stamping — and your workmen prefer it! You can have combinations of markings in one operation. Thousands are in successful use in all industries. Many sizes and models available. Write for free 8-page catalog today.

ALGENE "Quick-Change" PLATES
Complete Message Changed in Seconds
Capable of producing over 1,000,000 impressions, ALGENE "Quick-Change" plates are made to your specifications at nominal cost per plate. ALGENE Printers can be used also with interchangeable type in any size from 1/16" to giant 1½" letters.

algene marking equipment co.
mfgrs. of hand & automatic marking machines
N. E. D. PALISADE AVE. GARFIELD, NEW JERSEY

For more details circle NED-1014 C1 on enclosed inquiry slip

Riding Utility Tractors

Baird Machine Co., Beaver Riding Tractor Div.—Model 750 and 750E riding type utility tractors are suited for a broad range of industrial and plant maintenance operations. Typical attachments include units for mowing, snowplowing, rolling, and hauling. Details of these 7-hp gasoline engine driven tractors are given in 8-page brochure.

For more details circle NED-1015 C1 on enclosed inquiry slip

Toolroom Grinding Practices

Macklin Co.—"Toolroom Grinding" is title of 32-page guide book on grinding wheels, their selection, and use. Sharpening procedures for various tools are discussed, and typical set-ups for various grinding operations are shown. Wheel recommendations are included.

For more details circle NED-1016 C1 on enclosed inquiry slip

How to Plan & Install a Conveyor System

Conveyor Systems, Inc.—20-page Bulletin 500 is a guidebook on the above subject. Data are given on portable or stationary; gravity, wheel, or roller; and bulk material conveyors, as well as on packaging handling units and systems, custom-engineered systems and equipment, conveyor accessories, and overhead systems. Check lists, scale layout paper, typical installations, and related technical data complete this useful manual.

For more details circle NED-1017 C1 on enclosed inquiry slip

Metering Type Pump

Wallace & Tiernan Inc.—Series 100 is the smallest in a line of plunger metering pumps. Capacities range from 0.95 vs. 1200 psi to 50 gph vs. 100 psi, with accuracies within ±1 per cent. As described in 8-page illustrated Catalog 420.100, it is available with one or two liquid ends. Second end either doubles capacity or is used to proportionally blend two liquids. Design features are detailed.

For more details circle NED-1018 C1 on enclosed inquiry slip

The Key to Successful Supervision

Elliott Service Co.—"Successful Supervision" program available to business and industry executives presents job-tested techniques and ideas in easy-to-understand, easy-to-apply style. A complete yearly advance program, supplemented by detailed editorial previews every 8 weeks is furnished. Samples of 34 multifeature issues of "Management Information," six motivation studies, and six boss-to-boss dialogues are contained in a spiral-bound brochure.

For more details circle NED-1019 C1 on enclosed inquiry slip

The Strength of Nuts & Bolts

H. M. Harper Co.—A fundamental and clear explanation of the different strengths involved in metal bolts and nuts, plus the inside story of how those strengths are developed, is given in 14-page booklet. Also discussed is how Harper produces nuts and bolts of identical strength factors. Included is a glossary of 29 commonly used metallurgical terms.

For more details circle NED-1020 C1 on enclosed inquiry slip

Stack-Or-Lift Palletized Loads.
Load Trucks and Lay Pipe with Convertible Mast.
Mate Dies and Repair Machine Tools.
Store Supplies and Finished Products.
Lift and Tilt Drums.
Move Large Machines with Dual Cranes.

FOR VERSATILE LIFTING POWER specify RUGER MULTI-PURPOSE MOBILE HYDRAULIC CRANES

NEW STACK-OR-LIFT ACCESSORY AVAILABLE For ½, 1 and 2 ton cranes.

Ruger mobile hydraulic cranes reach-in-under-over . . . lift more for less. Only Ruger enables one man to combine almost all lifting, stacking and moving jobs into one operation. Ruger Multi-Purpose crane models are: floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable legs and retractable outrigger for side lifting. Variable speed hydraulic controls at no extra charge. Electric models optional. Get the facts about versatile lifting power, send for data today.

RUGER The Crane with 1000 uses . . . capacities ¼ to 3 ton.

RUGER EQUIPMENT INC.
619 West Fourth Street
Uhrichsville, Ohio
N-654-RE

For more details circle NED-1021 C1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

SILVER BRAZING FLUX
has 600 to 1800° F active range

Active range of S-200 Brazaloy, a micro-ground silver brazing flux for torch, furnace, or induction brazing, is between 600 and 1800° F. The homogenized, creamy flux boils at 212° F, dissolves metal oxides between 600 and 800° F, and becomes transparent at 1100° F. It has unlimited shelf life and can be used on stainless steel, nickel alloys, copper, brass, bronze, steel, beryllium-copper, and all silver alloys. Flux is recommended when tight joints necessitate high capillary flow and cleans off with hot water. • **All-State Welding Alloys Co.,** 249-55 Ferris Ave., White Plains, N. Y.

▲ For more details circle **NED-1022 C1** on enclosed inquiry slip ▲

REINFORCED PLASTIC PANELS
acrylic coating resists weathering

Color stability and light transmitting power of Structoglas industrial glass fiber reinforced plastic panels is preserved by giving them an acrylic overspray coating. Expected to double their maintenance-free life, the Weather-Fast coating resists weathering and gives the panels a fire resistant quality. • **Structoglas Inc.,** 11701 Shaker Blvd., Cleveland 20, Ohio.

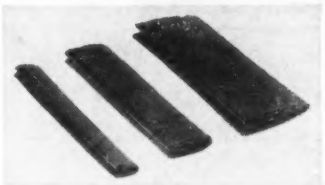
▲ For more details circle **NED-1023 C1** on enclosed inquiry slip ▲

ALL-PURPOSE COOLANT
for all metal grinding uses

Particularly suited for central systems, Mill Stream grinding coolant can be used on steel or cast iron without causing rust, and on brass and aluminum without danger of corrosion. Only magnesium and ductile iron are affected adversely. It reportedly yields fine finishes and dimensional control by absorbing heat from the wheel and workpiece without causing distortion. It is economical because it is used diluted 100:1. • **S. C. Johnson & Son, Inc.,** Service Products Div., 1525 Howe St., Racine, Wis.

▲ For more details circle **NED-1024 C1** on enclosed inquiry slip ▲

EDGE PROTECTION MATERIAL
protects narrow edges and flanges



Use of ½-in. Edg-Pak edge protection material affords edge, top, and bottom protection for various products and prevents injuries from handling sharp edges. Formerly made in 1¼ and 2-in. sizes (all three are shown), the self-gripping material protects narrow edges or flanges of metal stampings, wire strapping, turned-up lips, or extrusions that are ¼ in. or less in width. Cushioned X-crepe paper, neutral X-crepe, and polyethylene coating papers are available. Gripping action is provided by 24-gage spring steel wire cushioned by these papers. Material is furnished in cut lengths or in rolls. • **Flex-O-Lators, Inc.,** Edg-Pak Div., Carthage, Mo.

▲ For more details circle **NED-1026 C1** on enclosed inquiry slip ▲

VINYL SURFACING
colored product resists abrasion

Attractive appearance, high abrasion resistance, flexibility, and ease of bonding to all subsurfaces with a wide variety of adhesives are features of Autocord surfacing material. It has a bright colored virgin vinyl face fused to inert and flexible Hydrocord asbestos backing which is unaffected by alkaline moisture. Applications include flooring in boats and station wagons, and surfacing on appliances, folding doors, business machines, and counters. Material is available in green, blue, fawn, turquoise, gray, maroon, and red in die cut parts up to 54 in. wide or in 60-sq yd rolls. Special colors and patterns may be ordered in volume. • **Armstrong Cork Co.,** Industrial Div., 1270 State St., Lancaster, Pa.

▲ For more details circle **NED-1027 C1** on enclosed inquiry slip ▲

SPRAY WASH CLEANER
for steel, copper, brass, aluminum

Powdered alkaline Sprean 66 nonfoaming spray washer cleaner is formulated to provide maximum detergency, inhibit steel parts and equipment from rusting, and prevent scale formation on spray nozzles and heating coils. Used at 2 to 4 oz per gallon of water at 140 to 200° F, it can be used in all types of metal washing machines, including pressure spray, spiral, paddle wheel, and agitated basket types. Product removes oils, drawing compounds, solid dirt, and shop soil from steel, copper, brass, and aluminum. Normal rust inhibiting properties given steel parts in temporary storage can be increased by adding ½ oz per gallon to the final machine rinse stage. • **Enthone, Inc.,** 442 Elm St., New Haven 8, Conn.

▲ For more details circle **NED-1028 C1** on enclosed inquiry slip ▲

FAIL-PROOF PROTECTION AGAINST TRAMP IRON

with STEARNS INDOX V* permanent magnet pulleys

*Amazing *oriented ceramic* magnet material used exclusively by Stearns. Extremely high energy product — light in weight — low in cost.

Job-proved in hundreds of conveyor applications

Equals expensive electromagnetic types in performance, yet costs less than ordinary permanent pulleys.

Available in standard widths and diameters of from 12 to 48 inches to handle the deepest burdens.

Call your local Stearns representative or write for Bulletin 1021L.

STEARNS MAGNETIC PRODUCTS
DIVISION OF INDIANA GENERAL CORPORATION
635 South 28th Street • Milwaukee 46, Wisconsin

Profit with Stearns—First with Ceramic Magnet Separators for Industry

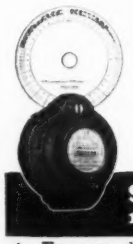
▲ For more details circle **NED-1030 C1** on enclosed inquiry slip ▲

I SAVED MY COMPANY $3,000 A MONTH

(Name of company furnished on request)

A simple device that automatically records minutes of busy and idle time of production equipment and lift trucks enables many department managers to make boasts like this.

If a machine is idle, the Service Recorder reports exactly when and how long the delay lasted. Records are permanent, easy to read, and easy to file. They enable you to improve scheduling, determine the cause of down time, and help you set rates.



Mechanical models attach to machines or lift trucks. Electrical models may be located remote from machines.

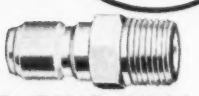
Prices of mechanical models are *as low as $40.*

Send for an illustrated folder with full information

SERVICE RECORDER COMPANY
1013A ROCKWELL AVE. • CLEVELAND 14, OHIO

▲ For more details circle **NED-1031 C1** on enclosed inquiry slip ▲

HANSEN SERIES ST
STRAIGHT THROUGH QUICK-CONNECTIVE COUPLING...
WITHOUT SHUT-OFF VALVES



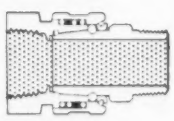
O-RING SEAL

• Smooth unrestricted bore permits full flow without pressure drop. Plug automatically locks in place when connected to Socket—is readily disconnected merely by pulling back Socket Sleeve.

Available with bore diameters from ¼" to 2½" inclusive. Furnished with brass sockets and either brass or steel Plugs—and with female pipe thread, male pipe thread, or hose stem connections.

Hansen Series ST Straight Through Couplings are now also available in stainless steel with bore diameters up to 2" inclusive—with female pipe thread or male pipe thread connections in commonly used sizes.

Shaded section shows free flow of liquid or gas through connected Hansen Series ST Coupling.



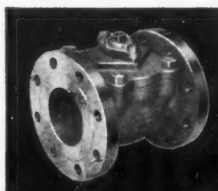
Write for the Hansen Catalog

a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle **NED-1025 C1** on enclosed inquiry slip ▲



How to buy a ball valve!

Check these features!

	FLO•BALL	VALVE A	VALVE B	VALVE C	VALVE D	VALVE E
1. TOP ENTRY	✓			✓		
2. IN-LINE MAINTENANCE	✓			✓	✓	
3. TOP AND BOTTOM GUIDED BALL	✓					
4. DOUBLE SEATS	✓	✓	✓	✓	✓	✓
5. FLANGES INTEGRAL WITH BODY	✓	✓		✓		
6. ONE-PIECE BALL AND STEM	✓					
7. BLOCK AND BLEED	✓					
8. COMPETITIVELY PRICED	✓	✓	✓		✓	✓

Only FLO·BALL has all 8

See your local distributor for details and prices on a wide variety of flanged (1" through 14") and screwed end (⅛" through 2") **FLO•BALL** valves; or write to:

Hydromatics, Inc.
BLOOMFIELD, N. J. • PILGRIM 8-7000 • TWX = BLOOMFIELD, N. J. 120

▲ For more details circle **NED-1029 C1** on enclosed inquiry slip ▲

GET YOUR HYDRAULIC CYLINDER FACTS NOW

■ Hannifin simplifies hydraulic cylinder selection by tailoring your cylinder to your circuit.

For 2,000 psi systems (3,000 psi non-shock) we offer our famous heavy-duty Series "H" cylinders. For circuits operated off 1,000 psi pumps, there's the new Series "L", the "thousand-pound" line, and the "universal" Series "U". Get our complete dimensional data and prices on all three lines of Hannifin hydraulic cylinders. New price sheets make it easy to figure your costs and tell you when you can expect shipment.

Write today for your free copies of this practical reference material. There is no obligation.

PARKER HANNIFIN CORPORATION

HANNIFIN COMPANY
A DIVISION
527 South Wolf Road • Des Plaines, Illinois
PNEUMATIC AND HYDRAULIC SYSTEM COMPONENTS

3191-PH

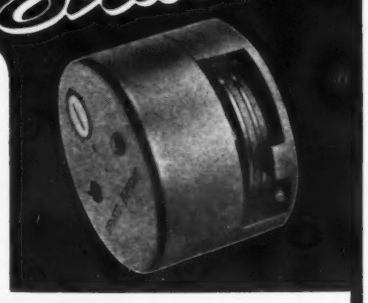
▲ For more details circle **NED-1032 C1** on enclosed inquiry slip ▲

and— another NEW product from Stearns

NOW AVAILABLE—

3 lb-ft. max. Torque electro-magnetic DISC BRAKES SIZE H-44

Diameter — 5"
Depth — 3 7/16"
Weight — 5½ lb.
AC or DC



MORE TORQUE PER POUND— MORE TORQUE PER CUBIC INCH!

Spring set—solenoid released disc brakes that mount on NEMA "C" flanges of "40-frame" fractional hp electric motors . . . for fast, smooth, quiet stops—"failsafe" operation—higher torque with minimum size and weight. *Life-Tested and Installation-Proved. Request Stearns New Product Preview-1-61-B.*

Stearns ELECTRIC CORPORATION
1120 NORTH BROADWAY
MILWAUKEE 2, WISCONSIN

SINCE 1917—THE CHOICE OF LEADING MOTOR AND MACHINERY MANUFACTURERS

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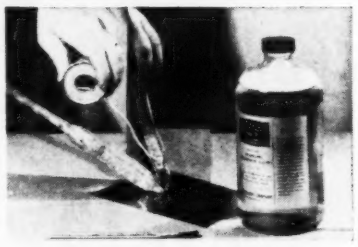
SOLDER STAINLESS CHROMIUM MOLYB



New flux that makes possible low temperature soldering of Rocket Age metals.

SCS #7 does away with bottlenecks of specialized fluxes for the new metals plus giving low temperature soldering on *all* Stainless Steels.

SCS #7 works 50° F. below the melting point of 50-50 solder. There are no skips when soldering Straight Chromium Stainless Steel; there is no bucking of the sheet.

SCS #7 removes the limitations of soldering dissimilar metals. It joins copper to stainless, molyb wire to silver, any of the new metals except Aluminum*. The flux is water soluble and may be removed readily, preventing corrosion.

SCS #7 combined with Farco All Metal Solder increases tensile strength five-fold, resists corrosion, and acts as a buffer between dissimilar metals.

SCS #7 is not only a production flux but a Laboratory necessity. It cuts cost by faster application at a lower temperature and saves solder by adding fluidity and spread.

SCS #7 is $5.95 per gallon; special offer six 4 oz. bottles $4.50; Farco All Metal Solder, 1/8" wire, $2.00 per lb.; prices f.o.b. Philadelphia, Pa.

*Asmc Flux for Aluminum Soldering.

FARRELLOY COMPANY
1246 N. 26th St., Philadelphia 21, Pa.

Have you tried #1 Acid Brushes 25% more Hair, $3.60 per gross F.O.B.

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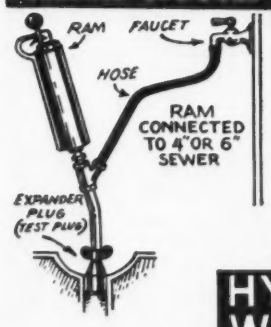
CLEARS CLOGGED DRAINS in Seconds!



The ideal plumbing service tool. Can pay for itself in one application!

Smashes through the most stubborn blockages, then flushes clean — all in one operation!

Comes equipped with self-contained manual compressor (can charge Ram to 100 lbs. in 30 seconds!) and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

Anyone can operate it! Thousands already in use, have saved *millions* of dollars in industry and institutions. Why lose time, suffer inconvenience, waste dollars needlessly on either completely blocked or slow-moving sewers, drains, fixtures? The HYDRAULIC WATER RAM clears severest stoppages with SPLIT-SECOND HYDROSTATIC IMPACT! . . . Shatters blockage, then flushes clean. No snakes, chemicals, cables. No pushing through. Works perfectly, *vent or no vent!* Nothing to wear out. You risk nothing on our 30 day free trial offer, at our expense. Write for details.

Works perfectly with all clogged fixtures, toilets, sinks, urinals, etc. Equipped with 4" rubber cone, ideal for toilets, plus set of 5 tapered adaptor plugs for other drains or sewers.

Write for Information, Prices, Free Trial Offer — Today!

HYDRAULIC MANUFACTURING CO.

138-5 Hurd Avenue Bridgeport 4, Connecticut

▲ For more details circle **NED-1035 C1** on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

PROTECTIVE HAND CREAM prevents epoxy resin dermatitis

Applied before exposure, Kerodex No. 71 hand cream affords protection against dermatitis caused by contact with sticky epoxy resins. It prevents sensitization of the skin by resins and amine hardeners, and offsets the irritant action of glass wool particles used with the resins in laminating operations. Both the resin and glass wool particles wash away quickly from hands treated with the cream. • **Ayerst Laboratories, Inc.,** 22 E. 40th St., New York 16, N. Y.

▲ For more details circle **NED-1036 C1** on enclosed inquiry slip ▲

PAVEMENT RESURFACER protects against weather, oil

Life of asphalt driveways, docks, and other areas is reportedly doubled when resurfaced with Cosmicoat C-60. This tar binder emulsion holds up to 40 lb of sand per gallon. It is applied by a special machine which agitates the mixture and spreads the slurry to a thickness of 1/16 to ¼ in. It protects against deterioration by gasoline, oil, grease, oxidation, and weather. • **D. C. Harris Co.,** Wooster, Ohio.

▲ For more details circle **NED-1037 C1** on enclosed inquiry slip ▲

COATINGS & SEALERS packaged for ease of use

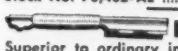
Usable to secure gutters and downspouts, repair tanks and bins, and seal doors and windows, Pliogrip 12-1 is offered in a self-application tube for $1.49. It skins over immediately, resists corrosion and weathering, and does not harden with age. Pliogrip 12-2 aluminum-pigmented protective coating is readily applied to galvanized and other metal parts and surfaces by brush. It withstands weather, grease, oil, and chemicals, and it has high crack and abrasion resistance. Companion Pliogrip permanent caulking sealant is usable around windows, doorways, flashing, and ducts. It adheres well to metallic, ceramic, and wood surfaces, and is resistant to all climatic conditions. • **W. J. Ruscoe Co.,** 483 Kenmore Blvd., Akron 1, Ohio.

▲ For more details circle **NED-1038 C1** on enclosed inquiry slip ▲

UNUSUAL BARGAINS

ORDER BY STOCK NO. • CHECK — M.O. • SATISFACTION OR MONEY BACK

NEW! NEW! NEW! DOUBLE ENDED CLIPS!
Handiest gadgets ever . . . hundreds of uses in industry! Spring action — squeeze to open either end. Use them for drying photographic prints, collating research or design notes for ready reference, displaying plans or sketches at meetings, keeping production orders together, hanging up samples or bulletins, etc. Made of white plastic, 2" long. Durable. Easily cleaned.
Stock No. 70,402-AE ..... Pkg. of 100 — $8.95 Pstpd.



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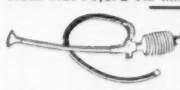

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